DOE/CR-0068-9

DEPARTMENT OF ENERGY

ANNUAL PERFORMANCE PLAN for FY 2001

SECRETARY OF ENERGY
BILL RICHARDSON

Editor's Notes

This plan addresses three years' of performance: assessment of results on FY 1999 performance goals, final FY 2000 performance goals and proposed FY 2001 performance goals. The significant improvement from the FY 2000 performance plan is the organization of performance goals under the budget decision units, thus eliminating the need for cross reference matrices.

The Department is concurrently working on updating the Strategic Plan published in September 1997. Although that document is in the review process we have chosen to indicate annual performance goal linkages for the FY 2001 performance goals to the new strategic plan objectives.

DOE's Inspector General and the Power Marketing Administrations are included in this plan. However, the Federal Energy Regulatory Commission (FERC) has prepared separate GPRA documents and their resources but not performance measures are included in this plan. We are negotiating with FERC to include them in this plan.

This plan was prepared by the Office of the Chief Financial Officer, Office of Strategic Planning and Program Evaluation with input from all offices in DOE. The DOE point of contact for this document is Bill Kennedy (202) 586-0423, bill.kennedy@hq.doe.gov or Suneel Kapur (202)586-0110, suneel.k.kapur@hq.doe.gov

This document is available on the World Wide Web as part of the Department's Strategic Management System found at: http://www.doe.gov/stratmgt

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DEPARTMENT OF ENERGY

OVERVIEW

This Annual Performance Plan for the Department of Energy expands on the government wide performance plan for FY 2001 and is an overview of the details contained in DOE's full budget submission. This plan is a product of the Department's Strategic Management System's process to make DOE more productive and accountable to the taxpayers.

Fiscal Year 2001 is the fourth year for which the Department has prepared a performance plan and the third performance plan required by the Government Performance and Results Act of 1993 ("Results Act"). The FY 2001 plan was developed using our experience gained from :

- developing and using Performance Agreements between the Secretary of Energy and the President since FY 1995,
- reporting the results of those Agreements,
- developing the "DOE Research and Development Portfolio," the "Comprehensive National Energy Strategy," and "Accelerating Cleanup -- Paths to Closure" plan, and
- reviews by Congress and the General Accounting Office of our Results Act implementation.

Our Annual Performance Plan includes the results of our commitments for FY 1999, establishes our final performance goals for FY 2000, and proposes performance goals for FY 2001. This year we have reorganized our presentation to significantly improve the linkages between resources and results. We are following the structure of our budget and organizing our performance goals by budget accounts. To ensure linkage with the Strategic Plan, we have annotated each performance goal with the strategic objective it supports.

The budget and management of the operations at the Department of Energy are intended to be performance-based and follow the business line format outlined in the Department's Strategic Plan. This Performance Plan for FY 2001 identifies what the taxpayers will receive for the resources entrusted to the Department of Energy.

The Mission of the Department of Energy is:

To foster a secure and reliable energy system that is environmentally and economically sustainable, to be a responsible steward of the Nation's nuclear weapons, to clean up our own facilities, and to support continued United States leadership in science and technology.

To implement this mission, the resources requested for FY 2001 are:

$ 18.9 Billion

INTRODUCTION

Results for Resources

Our government is becoming more accountable to the taxpayers through implementation of the Government Performance and Results Act of 1993 (the "Results Act"). This law requires development of long range strategic plans, annual performance plans, and annual performance reports. This document is the third annual performance plan prepared to meet law's requirements of: (1) establishing performance goals that include the level of performance to be achieved written in an objective, quantifiable, and measurable form; (2) briefly describing the resources required to meet those performance goals; (3) describing how performance will be measured and compared with the goals; and (4) describing how the Department will verify and validate the measured results. The President's Office of Management and Budget has issued guidance to agencies for preparing these plans but has given the Departments flexibility in choosing the appropriate format.

A Clear Picture of Intended Performance

This Annual Performance Plan provides a clear picture of the Department's intended performance for FY 2001 by presenting fiscal year performance goals toward achieving the mission and goals of the Strategic Plan. It should also be noted, however, that this performance plan is only an overview. The comprehensive set of performance measures and performance goals are set forth in the Department's full performance-based budget.

The annual goals are improved, means and strategies for FY 2001 are more meaningful, and the links to the resources are direct and clearer. To provide context, the plan includes all performance goals for FY 2000 and related performance goals with their assessments for FY 1999. The Department's annual Accountability Report for FY 1999 will present the full results for all FY 1999 performance goals.

Consistency with the Strategic Plan and Linkage to the Budget

To ensure consistency with our Strategic Plan, this Annual Performance Plan begins with our mission as stated in the Strategic Plan followed by our four Business Lines and Corporate Management sections. Within each business line, this year, we have reorganized our presentation to improve the linkages between resources and results. In the past, we listed our annual performance goals organized by strategic objectives and the long-term strategies of the Strategic Plan. This year we are following the structure of our budget and organizing our performance goals by budget accounts. We are also annotating with each performance goal the linkage to the Strategic Plan by identifying the strategic objective it supports.

We believe this method of linkage is a significant improvement as it allows a clear relationship between budget resources and performance goals and the Strategic Plan; and eliminates the need for cross-reference charts to map budget accounts and strategic objectives.

The Department is concurrently updating the Strategic Plan published in September 1997. Although that document is in the review process we have chosen to indicate linkages for the FY 2001 performance goals to the strategic objectives in the new strategic plan. For FY 1999 and FY 2000 performance goals, we are continuing to show the linkage with the objectives and strategies contained in the FY 1997 Strategic Plan.

The following shows the relationship between the GPRA-specified contents and terminology of a strategic plan (SP) and annual performance plans (APP) and where they are found in either DOE's Strategic Plan, Annual Performance Plan, or both.

GPRA	At DOE
General Goals(SP)	↔ Business Line Goals (SP&APP)
General Objectives (SP)	↔ Strategic Objectives (SP&APP)
Strategies (SP)	↔ Long-term Strategies (SP)
Performance Goals	↔ Performance Goals (SP)
& Indicators (APP)	↔ Annual Performance Goals & Targets for Fiscal Year (APP);
Means & Strategies(APP)	↔ Means & Strategies for FY(APP)

Adjustments to the Strategic Plan

The Results Act allows adjustments to the strategic plan through annual performance plans. In the two and a half years since the original strategic plan was published in September 1997, three significant strategic

planning efforts have been completed. The first significant strategic planning effort was the *Comprehensive National Energy Strategy*, DOE/S-0124 (CNES) published in April 1998. The second major effort was the development of the environmental management plan, *Accelerating Cleanup: Paths to Closure*, DOE/EM-0362 (June 1998). This plan is also being updated. The third significant effort was the *DOE Research and Development Portfolio*, a five volume comprehensive document, describing for the first time, our entire $7 billion research portfolio published in April 1999. The Department's new Strategic Plan being developed concurrently with this performance plan uses the results of these efforts.

During the development of the FY 2001 budget, improvements were made to the performance measures and goals of the Strategic Plan based on our experiences with these three efforts and our experience with the FY 2000 Plan. In addition, we are using a set of criteria for the performance measures that should be included in the Department's performance plan based on our experience with the Performance Agreements between the Secretary and the President. We want performance measures and goals to be presidential, specific, quantified, meaningful, stretching, concise, written for taxpayers, covering, and auditable. These criteria are discussed in Appendix A. Comments on these criteria are invited.

Consultation

In the development of the Department's Strategic Plan, alternative long-term strategies were considered. Through consultation with Congress, other agencies, and other stakeholder groups, many performance goals and strategies will be revised and improved. Including the information from our new strategic plan here will further facilitate the consultation and review process.

We are incorporating improvements based on the GAO and Congressional feedback on the FY 1999 and FY 2000 Annual Performance Plans. In addition, we met with Congressional staff to discuss the new reorganized format for this plan and accordingly revisions have been made. Consultation with Congress on the content of this plan will be conducted through the Congressional review of the budget.

The Department recognizes that the preparation of this annual performance plan is an inherently governmental function. As such, drafting of the plan was done only by Federal employees and no non-Federal parties made any significant contribution.

Improvements to the FY 2000 Plan

In the report to Congress on the usefulness of Agency performance plans, GAO noted that DOE's FY 2000 Plan was "moderately improved" over the FY 1999 plan. Although linking resources to performance goals was listed as a strength, our own assessment was that it needed to be clearer. This year we have followed the structure of our budget and organized our performance goals by budget accounts. We have also annotated with each performance goal, the linkage to the Strategic Plan by identifying the strategic objective it supports. We believe this method of linkage is a significant improvement as it shows a clear relationship between budget resources and performance goals and the Strategic Plan and eliminates the need for cross-reference charts to map budget accounts and strategic objectives.

GAO also noted that many of the annual plan's goals and measures were stated in quantifiable terms, but the plan's description of expected performance was often incomplete because no baseline was included to determine whether goals are reasonable and appropriate and to measure how the Department's annual performance compares with the strategic plan's goals and objectives. GAO observed that this problem was exacerbated by the way the plan described past performance in terms of assessment categories. We have addressed this concern by meeting with Congressional staff and agreeing to use the following terms: EXCEEDED GOAL, MET GOAL, NEARLY MET GOAL, and BELOW EXPECTATION. We are not providing percentage ranges to classify each term. Instead, we are basing them on the significance of deviation from the expectation established in the performance goal. If performance was significantly above the goal, the term EXCEEDED GOAL is used. If performance was less than the goal, but not significantly less, we used the term NEARLY MET GOAL. These terms are used in place of simply "met goal" or "did not meet goal" to support management's intent to have stretch goals and encourage performance. The full discussion of the performance is contained in the FY 1999 Accountability Report which will be issued by March 1, 2000.

The concern about providing baselines and context for the annual performance goals is something we have been working on for several years. This requirement is already addressed in our criteria (see Appendix A) for developing good performance goals. Over the years many of the performance goals have improved but many still need work. We are continuing to work on

this weakness. Another weakness GAO noted was the lack of information on verification and validation. We have added a section on verification and validation under each decision unit rather than addressing it for the entire Department.

Validation and Verification of Performance

Validation and verification of the Department's performance will be accomplished by periodic guidance, reviews, certifications, and audits. Because of the size and diversity of the Department's portfolio, V&V is supported by extensive automated systems, external expert analysis, and management reviews. Detailed discussions of V&V follow the description of performance goals and measures for each decision unit in this Annual Performance Plan.

For the overall Agency, GPRA guidance is issued and conducted in the Spring when the staff begins to report on the mid-year status. DOE's end-of-year reporting process includes certifications by heads of organizational elements and reviews of records. Multiple data sources exist within the program offices performing the work, the National Laboratories, or our contractors. The performance reporting process requires that heads of Departmental elements report the status of performance commitments in the Secretary's performance agreement and ensure that the information provided is accurate and complete. Internal management controls will continue to be applied to ensure the data quality and heads of elements formally certify the accuracy of the data at the end of the year.

In preparing audited financial statements, the Chief Financial Officer will issue guidance and conduct training for Secretarial Officers and their staffs, stressing their roles in the preparation of the financial statements and required management representation letters. Management representation letters attest to the accuracy and reliability of financial information and performance results. As requested by the Secretary, management representation letters will be signed and provided by all heads of Departmental elements responsible for performance commitments in the agreement to the Secretary and included the following attestation on performance measure information: "We acknowledge our responsibility for the fair presentation of the performance measure information presented in the Overview section and the Supplemental Information of the financial statements. We believe this data to be accurate and reliable." This attestation will indicate that each program office is aware of their responsibility for the performance measure data and the necessary validation and support documentation to ensure its accuracy and reliability.

The Department has been using a computer system called SOLOMON to collect and present results and performance assessments for the annual Secretary's Performance Agreement with the President. It has been used since the first Performance Agreement for FY 1995. SOLOMON is a World-Wide-Web based system to allow remote data entry, monitoring, and oversight. Data entry is controlled through a password system that provides an auditable record of changes. Program offices and managers directly update results and performance assessments during the year and the end of year information is used for analysis and preparation of the "Accountability Report".

In accordance with the Federal Managers' Financial Integrity Act of 1992, the Department will continue evaluations of its management controls in effect during the fiscal year. Our evaluations include an assessment of whether the management controls of the Department were in compliance with the standards prescribed by the Comptroller General. The purpose of these evaluations is to provide reasonable assurance that the management controls are working effectively, that program and administrative functions including the accuracy and reliability of the reporting of performance results are performed in an economical and efficient manner consistent with applicable laws, and that assets were safeguarded against the potential for waste, fraud, abuse, or mismanagement.

The Department's reporting of performance and financial information is audited by the Inspector General. For FY 1996 and FY 1997 we received unqualified opinions. For FY 1998 the IG's opinion was qualified due to weaknesses in the controls over the Department's environmental liabilities estimation process. Inspector General also noted weaknesses in the presentation of the overview and performance measures. The most recent audit will be published on March 1st and we will address the weaknesses in the FY 1999 reporting that affect performance for FY 2001.

Management Challenges

The Department has been identifying for the President, Congress, and ultimately the public, areas of vulnerability in the operations of Government. DOE's internal control process has been established to identify Departmental Management Challenges and develop plans to address them, under the Federal Managers' Financial Integrity Act of 1982 (FMFIA). In this plan we have included performance measures for the planned FY 2000 milestones, addressing these Management Challenges. Congress has also asked that we set annual performance goals for each of the major management challenges identified by the GAO and the IG. The following table lists the fourteen major management challenges identified by the Congress as part of the FY 2000 Plan assessment, and lists as applicable the corresponding Departmental Challenge. Performance goals related to these challenges are identified in this plan with a "*(FMFIA)*" annotation on the page numbers noted below with each challenge.

Department's Major Management Challenges

Major Management Challenges at DOE as identified by GAO/Congress	Management Challenges as identified by DOE (page numbers for related goals)
1. Y2K readiness	This was not a Departmental Management Challenge.
2. Information security	**Security** (86)
3. Contract management	**Contract management** (141)
4. Difficulty completing large projects	**Project Management** (58, 98, 143)
5. Slow transition to external regulations. Most DOE facilities are not licensed or inspected by independent regulators	External regulation issues were fully addressed in FY 1999.
6. DOE's ineffective organizational structure blurs accountability, allowing problems to go undetected and remain uncorrected	DOE does not consider this a Management Challenge. Related goals are described under CM.
7. DOE's staff lack technical and management skills	This was fully addressed in FY 1999. It is no longer a Management Challenge.
8. Significant environmental compliance and waste management problems exist at DOE facilities	**Environmental Compliance** (98) **Nuclear Waste Disposal** (101)
9. Nuclear and occupational safety and health deficiencies impair DOE's ability to ensure the health and welfare of workers and the public	**Safety and Health** (135)
10. DOE's schedules for permanent disposal of radioactive waste generated by nuclear utilities and weapons complex experienced significant delays	**Nuclear Waste Disposal** (111)
11. The Department has extensive inventories of nuclear materials that may no longer be necessary due to the end of the cold war or other mission changes	**Surplus Fissile Materials** (74)

Department's Major Management Challenges (Continued)

	Major Management Challenges at DOE as identified by GAO/Congress	Management Challenges as identified by DOE (page numbers for related goals)
12.	Much of DOE's infrastructure is in poor condition	This was fully addressed in 1998. It is no longer a Management Challenge.
13.	DOE has significant deficiencies in its control over Government personal property	This was fully addressed in 1998. It is no longer a Management Challenge.
14.	Access to sensitive materials, areas, and information, and physical security	**Security** (78, 86)
	(Congress/GAO has not identified this as major management challenge)	**Mission Critical Staffing** (64, 86, 143)
	(Congress/GAO has not identified this as major management challenge)	**Inadequate Audit Coverage** (153)

Next Steps for this Plan

This Performance Plan is a proposal associated with the proposed budget for the Department. Although not required under the Results Act, but allowed by OMB, the Department intends to convert this proposal into a performance agreement once the budget for the Department is signed into law. The Department has developed performance agreements after budgets were enacted since FY 1995. The performance agreement for FY 2001 will resolve differences between the proposed budget and performance plan and the enacted budget. The performance agreement will contain the proposed performance goals of the Annual Performance Plan for those activities that are fully funded and will appropriately adjust those performance goals that are funded at a level different from the proposed budget.

The Department intends to report to the public semi-annually on the status of performance. Additionally, the Department will report to the Congress annually as required by the Results Act, Government Management Reform Act of 1994, and the DOE Organizational Act of 1977.

Waivers

The Department is part of the Office of Management and Budget pilot program using an "Accountability Report" to consolidate annual reporting of financial information as allowed by the Government Management Reform Act of 1994. The Department intends that this annual report will also meet the requirements for an annual performance report in accordance with the Results Act. The Department has made no other request for waivers of administrative requirements to provide managerial flexibility.

RESOURCE REQUIREMENTS

The Department will only achieve its goals and objectives with adequate financial, human, infrastructure, and technical resources. Financial resources appropriated by Congress, have been adequate to support the Department's tradition of scientific excellence as evidenced by our innovative solution to some of the most important scientific, national security, energy, and environmental challenges facing America's future.

For FY 2001 the Department is requesting $18.9 billion a 9% increase over the FY2000 appropriation. This investment of 3% of the total discretionary Federal spending serves vital National interests of pushing the frontiers of science for National Security, Energy, and Environment. Our programs promote scientific progress; advance peace; ensure the availability of secure, clean, and efficient energy resources for the nation's economic future; clean up the legacy of the Cold War; and strengthen safety and health programs across the DOE complex.

Our human resources include both Federal and contractor personnel. The requested funding includes the cost of 16,221 Full Time Equivalent (FTE) Federal personnel and about 110,000 contractor personnel. Although employment reductions since 1995 have netted $669 million in savings to taxpayers, the Department now faces significant skills gaps within the scientific and technical areas and an aging workforce. In November 1998, the Secretary of Energy announced the Department's new Workforce for the 21st Century Initiative, "Workforce 21", as the next step in strengthening our technical and management capability to fulfill our critical missions for the Nation. The Department has also identified "Mission Critical Staffing" as a Departmental Challenge for the CFO, Security Operations, and the Office of Nonproliferation and National Security.

In the National Security area, the Stockpile Stewardship Program will require significant investments in computing and modeling capabilities, experimental facilities, and nuclear expertise to be able to certify to the President the safety and reliability of the enduring stockpile without additional nuclear testing. Unprecedented growth in nonproliferation operations in Russia requires the Department to strengthen and expand the Moscow Office and to ensure adequate program management and project oversight by Federal staff for these highly visible and priority programs.

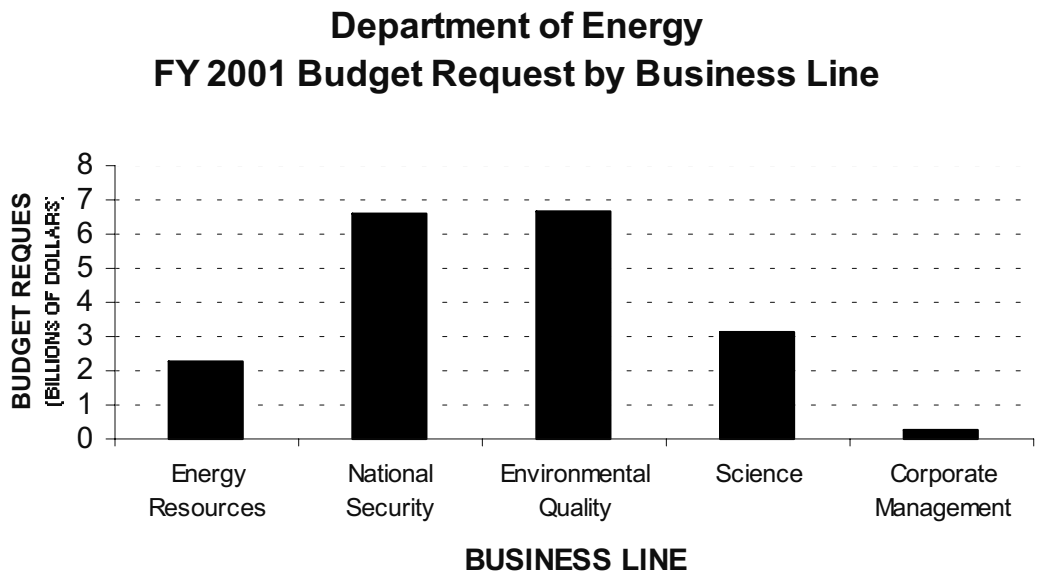
In order to meet the Nation's needs for cutting-edge science, DOE must periodically replace or make major upgrades to aging or outdated major experimental facilities. These needs will be weighed against the benefits from cost-effective modifications to existing facilities to ensure that the maximum national benefits are derived from existing infrastructure—this recognizes, however, that many of these science facilities have a finite useful life. The Secretary of Energy's Advisory Board has been asked to examine the long-term needs for advanced scientific research facilities to accomplish DOE's Science and Technology objectives.

Undoubtedly, the continuing push toward a more seamless, connected science establishment will be aided by further advances in computation and communication. Opportunities for laboratory collaboration, remote experimentation, scientific simulation as a potential substitute for more costly experimentation, and sharing and access to vast quantities of scientific data and information will continue to place demands on computation and communication capabilities within the science programs.

Resources for Major Acquisitions are addressed in the Departments' Capital Assets Plan.

Summary of FY 2001 budget request for the Department's five goals

Business Line Goals		FY 2001 Budget Request (in millions)
Energy Resources: Promote the development and deployment of energy systems and practices that will provide current and future generations with energy that is clean, reasonably-priced, and reliable. (EE, FE, NE, PMAs, EIA, & FERC)		$2,247
National Security: Enhance the national security through the military application of nuclear technology and reduce global danger from weapons of mass destruction. (CN, DP, IN, MD, NN, NR, OA, SO, & WT)		$6,621
Environmental Quality: Aggressively clean up the environmental legacy of nuclear weapons and civilian nuclear research and development programs at the Department's remaining sites, safely manage nuclear materials and spent nuclear fuel, and permanently dispose of the Nation's radioactive wastes. (EM, RW)		$6,670
Science: Produce remarkable insights into our physical and biological world and the nature of matter and energy, advancing the basic research and instruments of science that are the foundations for DOE's applied missions and a base for U.S. technology innovation. (SC)		$3,160
Corporate Management: Demonstrate excellence in the Department's environment, safety and health; security; and management practices and systems to support our world class programs. The funds shown for Corporate Management include Departmental staff and support offices, with adjustment for revenues. (CI, CR, ED, EH, GC, HG, IA, IG, MA, PA, PC, PO, S1))	EH Others	$ 166 $ 74
Total:		**$18,938**



ENERGY RESOURCES

Energy needs of the United States are diverse and extensive. Energy is the vital force powering business, manufacturing, and movement of goods and services throughout the country. The processes that link U.S. energy supply, conversion, and transmission systems to end uses comprise a complex system of technologies and scientific disciplines.

The Energy Resources Business Line is made up of offices working to implement domestic policy on energy production, distribution, and consumption. The DOE offices involved in this work are the Offices of Fossil Energy (FE), Nuclear Energy (NE), and Energy Efficiency and Renewable Energy (EE). The Power Marketing Administrations are also funded through this business line. Finally, the Energy Information Administration provides independent energy information for policy makers.

ENERGY RESOURCES GOAL

Promote the development and deployment of energy systems and practices that will provide current and future generations with energy that is clean, reasonably-priced, and reliable.

The Energy Resources goal is supported by the following five strategic objectives.

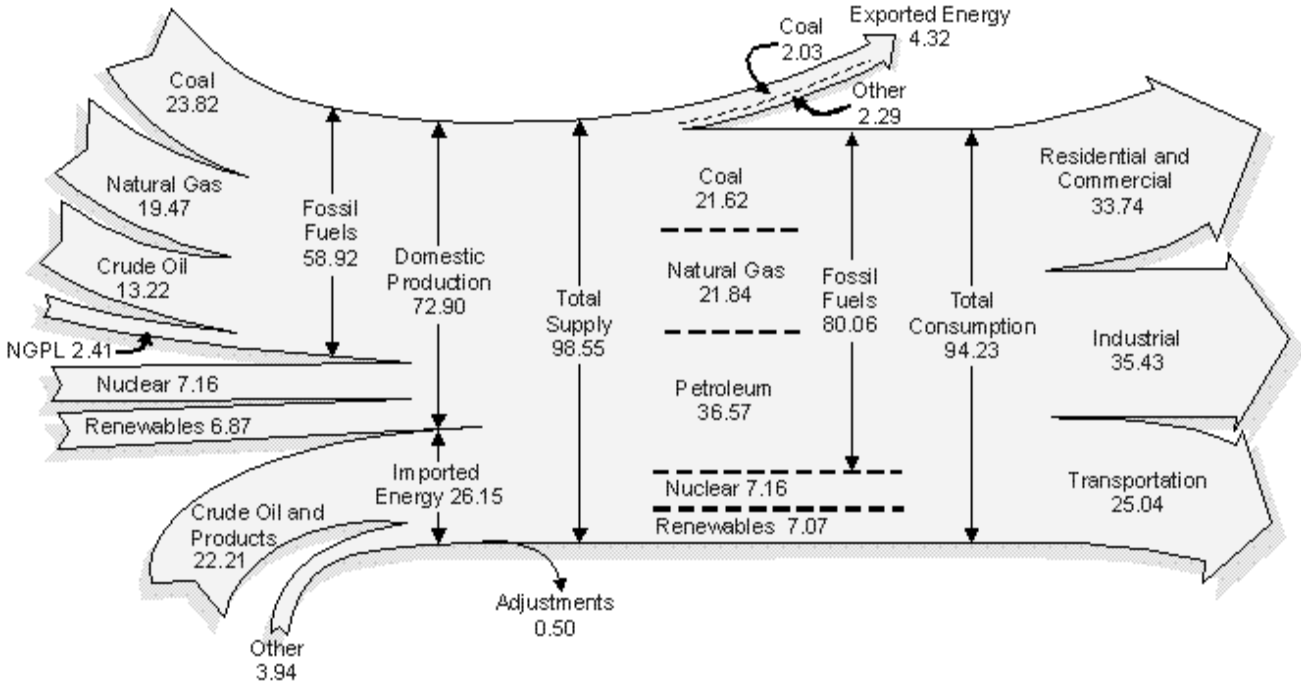
ER1: ***Promote reliable, affordable, clean, and diverse domestic fuel supplies.***

ER2: ***Promote reliable, affordable electricity supplies that are generated with acceptable environmental impacts.***

ER3: ***Increase the efficiency and productivity of energy use, while limiting environmental impacts.***

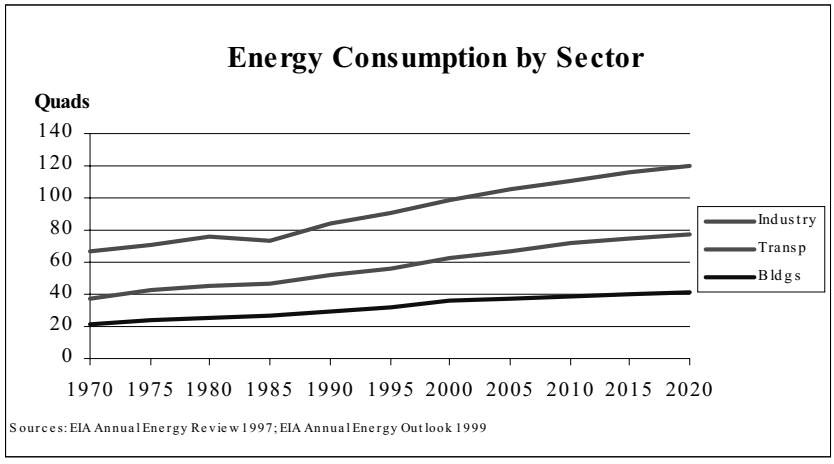
ER4: ***Inform public policy makers, energy industries and the general public by providing reliable energy information.***

ER5: ***Cooperate globally on international energy issues.***

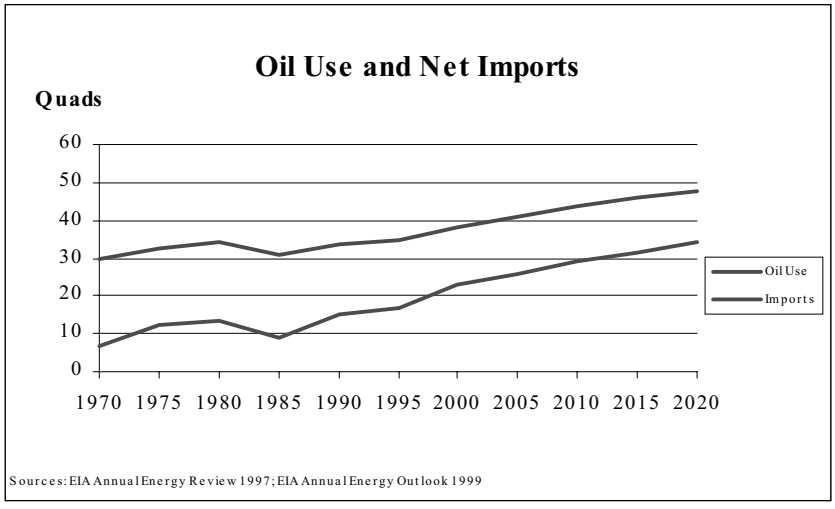


Energy Flow, 1998 (Quadrillion Btu) (Source: EIA Annual Energy Review 1998)

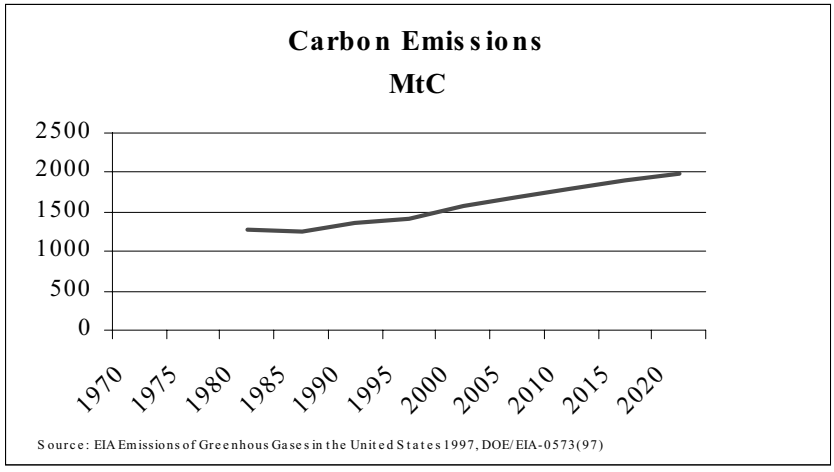
The following charts show historical trends and projections for three key indicators related to energy consumption and use in the United States.



The growth in energy consumption is occurring across all three energy sectors.



Total petroleum consumption and petroleum imports are projected to continue to rise steadily, with imports representing 65% of total use by 2020.



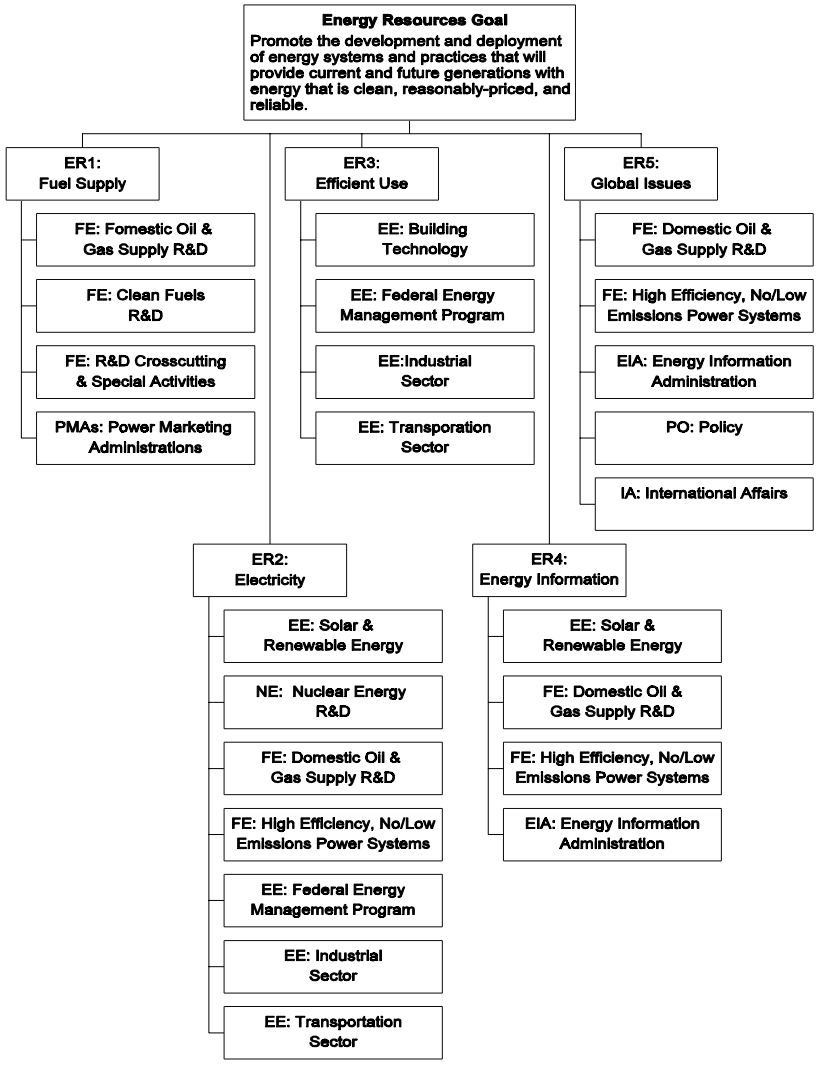
Carbon emissions have risen steadily since 1990 and that trend is projected to continue under current laws and regulations.

The following table maps the Presidential Budget's Program and Financing (P&F) accounts and program activities to the Department of Energy's offices and decision units. The alignment includes aggregation, disaggregation, and consolidation. The chart that follows this one shows how the decision units support the Department's Strategic Plan objectives for this business line.

Presidential Budget Program and Financing (P&F) Accounts and Program Activities		FY 2001 Budget Request ($M)	DOE Office	DOE Decision Units
270 Energy Supply				
	Solar and Renewable Energy	350	EE	Solar & Renewable Energy
		55	EE	Transportation Sector (Biofuels)
		5	EE	Energy Management
	Adjustment for Renewable Energy Research	47		
	Subtotal for Solar and Renewable Energy	457		
	Nuclear Energy Research & Development	92	NE	Nuclear Energy R&D
		44	NE	Fast Flux Test Facility
		74	NE	Termination Costs
		17	NE	Isotope Support
		53	NE	Uranium Programs
		28	NE	Program Direction
		(2)	NE	Offset from Revenue Sharing
	Sub-Total Nuclear Energy R&D	306	NE	Nuclear Energy
250 Energy Programs				
Fossil Energy Research and Development		376	FE	Domestic Oil & Gas Supply R&D
Clean Coal Technology		(155)	FE	High Efficiency, No/Low Emissions Power Systems
			FE	Clean Fuels RD&D
			FE	FE R&D Crosscutting & Special Activities
Naval Petroleum and Oil Shale Reserves		0	FE	Petroleum Reserves
Strategic Petroleum Reserve		158	FE	
SPR Petroleum Account		(7)	FE	
Elk Hills School Lands Fund		36	FE	
Energy Conservation				
	Building technology, State and community programs--non-grant	149	EE	Building technology, State and community programs--non-grant
	Building technology, State and community programs--grant	191	EE	Building technology, State and community programs--grant
	Federal energy management program	29	EE	Energy Management
	Industrial sector	184	EE	Industrial Sector
	Transportation sector	251	EE	Transportation Sector
	Policy and management	46	EE	Policy and management
270 Energy Supply				
Energy Information Administration		75	EIA	Energy Information Admin.
Power Marketing Administrations		200	PMA	Power Marketing Administrations
TOTAL - Energy Resources		**$2,247**		

Note: Revenues from FERC receipts and Colorado River Basin (WAPA) are included under Corporate Management.

The Energy Resources goal is supported by five strategic objectives. Each strategic objective is being pursued through long-term strategies. The Decision Units fund work on those long-term strategies and the annual performance goals are discussed with the Decision Units on the following pages. DOE Decision Units provide a means to link program resources at lower levels of aggregation to performance goals. While this approach allows us to clearly link annual performance with annual budget resources, we are also keeping our strategic plan goals and objectives in focus by annotating each performance goal with the strategic objective it supports.



DOE Decision Unit: Solar and Renewable Energy

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Solar and Renewable Energy	-	EE	271	350

Introduction of the Decision Unit:

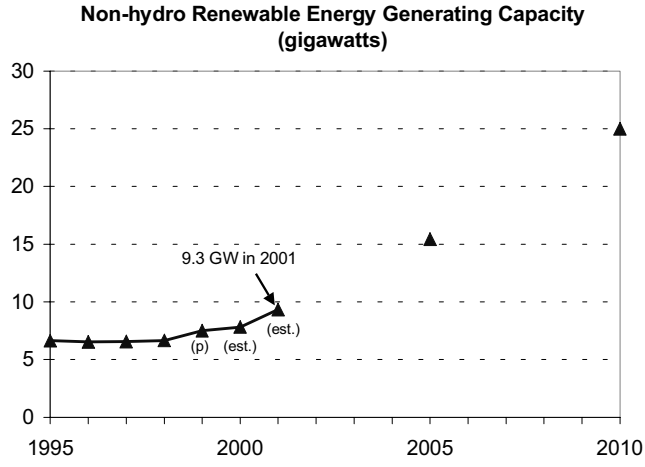
The mission of the Solar and Renewable Resources Technologies program is to lead the national effort to develop renewable energy technologies and to accelerate their acceptance and use, nationally and internationally. Within the Office of Energy Efficiency and Renewable Energy (EERE), the program supports research and development of clean, reliable renewable energy technologies and cutting edge power delivery technologies that will improve the performance and efficiency of electric power systems. The EERE Office of Power Technologies implements the program activities.

Annual Performance Goals:

Discussion: The Department's research, development and deployment efforts (past as well as current) will help triple non-hydroelectric renewable generating capacity by 2010, with non-hydro capacity being increased to 9.3 gigawatts in 2001. By 2010, 20% of new capacity additions will be distributed power (electric generating systems connected to the distribution portion of the electricity grid), compared to 5% in 1999.

One million solar energy systems will be installed by 2010, with 90,000 installed by 2001. Performance goals are also being developed for enhancing the electric utility infrastructure through innovative power system technologies.

These performance goals support DOE strategic objective ER2.



FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Support the Million Solar Roofs Initiative by installing 15,000 energy systems. (ER2-3)* (EXCEEDED GOAL)	• *Facilitate the installation of 20,000 solar energy systems in support of the Million Solar Roofs Initiative, bringing the total number of installed systems to 70,000. (ER2-3)*	• *Facilitate the installation of 20,000 solar energy systems , bringing the total number of installed systems to 90,000. (ER2)*
• *Develop codes, standards and safety specifications for residential PV roof systems. (ER2-3)* (NEARLY MET GOAL)	• *Develop a 13 percent efficient stable prototype thin-film photo-voltaic module. (ER2-3)* • *Demonstrate fully autonomous operation of a 10 kW dish engine system for off grid applications. (ER2-3)*	• *Develop a 14 percent efficient stable prototype thin-film photovoltaic module. (ER2)* • *Evaluate potential for a small (1-10 kW) dish based systems to compete in green distributed markets before 2005. (ER2)*
• *Accumulate 750 hours of reliable operation for a distributed concentrating solar power system (ER2-3)* (EXCEEDED GOAL)	• *Complete two designs of advanced air-cooled condensers for geothermal applications. (ER2-3)*	• *Complete testing and evaluation of a 5 MW Kalina Cycle demonstration geothermal power plant. (ER2)*
• *Complete design of power plant modifications for co-firing of biomass with coal. (ER2-3)* (MET GOAL)	• *Complete three projects which will be co-firing with biomass on a regular basis. (ER2-3)* • *Establish an Interagency Council and an Advisory Committee on biobased products and bioenergy. By April 30, 2000 develop a Strategic Plan for the development and use of biobased products and bioenergy as required by Executive Order 13134. (ER2-3)*	• *Initiate testing of one gasification based cofiring process. Two additional projects will have completed testing to the point of commercial readiness. (ER5)*
• *Develop an industry-led vision and roadmap for an integrated bioenergy industry to advance the development of biomass derived energy and its use in domestic and global markets. (ER2-3)* (NEARLY MET GOAL)		
• *Establish a United States based commercial firm as an internationally recognized certification agent using testing and design review services provided by the National Wind Technology Center. (ER2-3)* (MET GOAL)	• *Install and begin testing of two proof-of-concept turbines under Next Generation Turbine program leading to commercial availability of technology capable of producing electricity at 2 ½ cents per kWh in 15 mph wind resource by 2003. (ER2-3)* • *Demonstrate over 90 percent absorption of CO2 in a sorbent enhanced reformer reactor for hydrogen production. (ER5-2)*	• *Advanced wind hybrid control system technology developed jointly with USDA Agricultural Research Center will be commercially available. (ER2)* • *Demonstrate Carbon dioxide free production of hydrogen using a plasmatron (electric torch) at 30 kW scale. (ER1)*

Means and Strategies for FY2001:

Over time, the Department impacts levels of non-hydroelectric energy generating capacity by reducing the cost of energy (COE) for photovoltaic, wind, biomass, geothermal and concentrating solar power technologies. Reduced COE levels will be achieved by increasing photovoltaic cell efficiency and increasing U.S. photovoltaic manufacturing capacity; improving wind turbine designs and validating advanced wind turbine performance; increasing the reliability of distributed concentrating solar power systems; increasing the availability and payback period of biomass cofiring systems; reducing the cost of biomass gasification systems; and decreasing the drilling costs of geothermal systems.

Increasing market penetration of distributed power systems will be achieved through advances in technology cost and performance and the implementation of national standards for interconnecting distributed power with the grid.

Enhancements to the electric utility infrastructure will be achieved by: improving the reliability of the system through development of real time control and information systems along with fast power electronic switching; increasing the production of high temperature superconducting wires; and reducing the cost and increasing the energy density of energy storage systems.

Collaboration Activities:

DOE collaborates on its R&D with academia and the photovoltaic, wind, biomass, concentrating solar power, and geothermal industries.

External Factors Affecting Performance:

Program funding, the state of the economy and the cost of competing technologies will affect the installation of renewable energy systems. Continuation of federal tax incentives for renewables will also impact performance.

Validation and Verification:

Data Sources:	The Energy Information Administration's Renewable Energy Annual and Annual Energy Outlook.
Baselines:	The baseline for tripling capacity is 6.5 gigawatts in 1996.
Frequency:	Annual.
Data Storage:	The Energy Information Administration stores the data on its computers.
Verification:	The EIA data will be compared to trade association data to identify any significant differences.

Planned Program Evaluation:

Each technology program also holds program reviews with stakeholders on a periodic basis. An internal program review for each individual technology program within the EERE Office of Power Technologies is conducted annually with the Deputy Assistant Secretary. In FY 1999, the National Academy of Sciences' National Research Council conducted an extensive peer review of the Solar and Renewable Energy Program, both from the perspective of the R&D activities of each individual technology program and from the perspective of an overall strategy for the EERE Office of Power Technologies' Solar and Renewable Energy Program.

DOE Decision Unit: Nuclear Energy R&D

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Nuclear Energy R&D	-	NE	91	92

Description of the Program:

The mission of the Nuclear Energy Research and Development program is to conduct advanced research and development in areas such as nuclear power and space power systems. In addition, this program supports nuclear engineering education and the enhancement of the Nation's nuclear science infrastructure.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Complete Memorandums of Understanding with the Nuclear Regulatory Commission and the Electric Power Research Institute (EPRI) to guide future implementation of the Joint DOE-EPRI Strategic Research and Development Plan to Optimize U.S. Nuclear Power Plants. (ER2-7)* (MET GOAL) • *Establish a peer-reviewed Nuclear Energy Research Initiative, initially funded at $19 million, to select and conduct investigator-initiated innovative scientific and engineering research that will address the issues facing the future of nuclear power in the U.S., including proliferation concerns, economics, and the management of nuclear waste. (ER2-8)* (MET GOAL)	• *Issue the first update to the Joint DOE/EPRI Strategic Research and Development Plan to Optimize U.S. Nuclear Power Plants. (ER2-7)* • *Continue Nuclear Energy Research Initiative (NERI) research to improve the understanding of new reactor and fuel cycle concepts, and nuclear waste management technologies and begin to develop a preliminary feasibility assessment of the concepts and technologies. (ER2-8)* • *Advance the state of scientific knowledge and technology to enable incorporation of improved proliferation resistance, safety and economics in the potential future design, and development of advanced reactor and nuclear fuel systems. (ER2-8)* • *Implement a cooperative cost-shared R&D program by working with industry, universities, national laboratories, and the Nuclear Regulatory Commission, to address technical issues that could impact continued operation of current nuclear power plants. (ER2-7)*	• *Continue R&D activities initiated in FY 2000 associated with managing long term effects of plant aging. (ER2)* • *Issue an annual update to the Joint DOE-EPRI Strategic Research and Development Plan to Optimize U.S. Nuclear Power Plants. (ER2)* • *Complete the first 3-year phase of Nuclear Energy Research Initiative (NERI) research and development by identifying feasible and important reactor and fuel cycle concepts for continued development. (ER2)* • *Initiate the International Clean Energy Initiative/International Nuclear Energy Research Initiative (I-NERI) to promote bilateral research to improve the cost, and enhance the safety, non-proliferation and waste of future nuclear energy systems. (ER2)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
	• *Complete bench scale demonstration of the process to recover Pu-238 scrap for reuse in power systems for future missions using radioisotope power systems. (SC2-1)*	• *Bring Pu-238 scrap recovery line to full operation and process two kilograms of Pu-238 scrap for reuse in ongoing missions requiring the use of radioisotope power systems. SC4)*
	• *Execute industrial contract and initiate associated laboratory efforts to develop small Radioisotope Thermoelectric Generators (RTGs) for anticipated use on NASA's Europa Orbiter and Pluto/Kuiper missions planned for launch in 2003 and 2004. (SC2-1)*	• *Complete final design and initiate fabrication of small Radioisotope Thermoelectric Generators (RTGs) for anticipated use on NASA's Europa Orbiter and Pluto/Kuiper missions planned for launch in 2003 and 2004. (SC4)*
• *Support U.S. universities' nuclear energy research and education capabilities by:* – *Providing fresh fuel to all university reactors requiring this service.* – *Funding at least 20 universities with research reactors for reactor upgrades and improvements.* – *Partnering with 19 or more private companies to fund DOE/Industry Matching Grants Program for universities.* – *Increasing the funding for Reactor Sharing by 40 percent over FY 1998, enabling each of the 26 schools involved in the program to improve the use of their reactors for teaching, training, and education within the surrounding community. (ST4-1)* (MET GOAL)	• *Support U.S. universities' nuclear energy research and education capabilities by:* - *Providing fresh fuel to all university reactors requiring this service;* - *Providing funding for reactor upgrades and improvements at least 23 universities;* - *Partnering with 17 or more private companies to fund DOE/Industry Matching Grants Programs for universities;* - *Increasing the funding for Reactor Sharing by 20 percent over FY 1998, enabling each of the 29 schools eligible for the program to improve the use of their reactors for teaching, training, and education within the surrounding community. (SC4-1)*	• *Support U.S. universities' nuclear energy research and education capabilities by:* – *Providing fresh fuel to all university reactors requiring this service.* – *Funding at least 23 universities with research reactors for reactor upgrades and improvements.* – *Partnering with 17 or more private companies to fund DOE/Industry Matching Grants Program for universities.* – *Continue to support Reactor Sharing enabling each of the 29 schools eligible for the program to improve the use of their reactors for teaching, training, and education within the surrounding community. (SC4)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Attract outstanding U.S. students to pursue nuclear engineering degrees by:* *–Increasing the number of fellowships from 14 to 22.* *– Increasing the number of Nuclear Engineering Education Grants from 19 to over 40.* *– Providing summer on-the-job training to 29 junior and senior nuclear engineering scholarship recipients.* *(ST4)* (MET GOAL)	• *Attract outstanding U.S. students to pursue nuclear engineering degrees by:* *– Providing 18-20 fellowships;* *– Increasing the number of Nuclear Engineering Education Grants to 45 existing and new grants;* *– Providing scholarships and summer on-the-job training to approximately 50 sophomore, junior and senior nuclear engineering and science scholarship recipients.* *(SC4-1)* [The Department completed the Accelerator Transmutation of Waste Roadmap and provided the report to Congress on November 1, 1999]	• *Attract outstanding U.S. students to pursue nuclear engineering degrees by:* *– Providing 22-24 fellowships.* *– Increasing the number of Nuclear Engineering Education Grants to approximately 45 existing and new grants.* *– Providing scholarships to approximately 50 sophomore, junior and senior nuclear engineering and science scholarship recipients including a new initiative partnering minority institutions with nuclear engineering schools to allow these students to achieve a degree in their chosen course of study and nuclear engineering.* *(SC4)* • *Complete the evaluation of the trade studies and experimental data on the lead-bismuth loop under the Accelerator Transmutation of Waste (ATW) program initiated in FY 2000. Develop a detailed program plan with recommendations for review by the Nuclear Energy Research Advisory Committee (NERAC), and submit the final plan to OMB, OSTP, and Congress.* *(EQ6)*

Means and Strategies for FY 2001:

The Department will: (1) conduct investigator-initiated, peer-reviewed research and development at universities, national laboratories, and industrial organizations to advance the scientific knowledge base and develop new technologies that will address the principal obstacles to the expanded use of nuclear energy, advance the state of nuclear technology for a competitive marketplace, and help maintain a nuclear science and technology infrastructure to meet future technical challenges; (2) continue to conduct government-industry cost-shared, peer-reviewed, research and development to address the issues associated with long term operation of existing nuclear power plants and to apply new technology to improve plant reliability and availability; (3) develop, demonstrate, test, and deliver advanced radioisotope power systems for space and national security missions; (4) identify, fund, and perform site maintenance, construction upgrade projects, and environmental compliance activities in accordance with DOE, Federal, and State requirements; (5) support and promote university, college, and preparatory technology programs that deliver information and contribute to learning in nuclear science and engineering education, enable advanced educational research opportunities, build capabilities at educational institutions, and improve educational opportunities for diverse groups; and (6) once the Department has evaluated the trade studies, and experimental data on the lead-bismuth loop, including test data on the performance of the Russian lead-bismuth target, a detailed program plan with recommendations will be generated, reviewed by

the Nuclear Energy Research and Advisory Committee (NERAC), and provided to OMB, OSTP, and Congress. Until such time the Department will defer funding of the science and engineering based research on the Accelerator Transmutation of Waste program.

Collaboration Activities:

The Department will work closely with the Nuclear Reactor Technology Lead Laboratories -- Idaho National Engineering and Environmental Laboratory (INEEL) and Argonne National Laboratory (ANL) – to maintain and apply well-qualified technical capabilities to assure the Department is maximizing its investment in nuclear reactor technology research and development.

The Department and the Nuclear Regulatory Commission (NRC) coordinate program planning to assure that their research and development activities are complimentary, cost-effective, and without duplication. The Nuclear Energy Research Advisory Committee (NERAC) will provide advice on the conduct of the Nuclear Energy Plant Optimization (NEPO) and Nuclear Energy Research Initiative (NERI) research and development programs.

NEPO will be conducted on a 50-50 cost-shared basis with industry consistent with the updated "Joint DOE-Electric Power Research Institute Strategic Research and Development Plan to Optimize U.S. Nuclear Power Plants" to be issued in FY 2000. The projects for NEPO will be conducted at national laboratories, industrial organizations, and universities in close coordination with the NRC.

The NERI program encourages research and development collaboration among scientific and engineering researchers at universities, national laboratories and industry to maximize the use of available talent. In addition, the NERI program endorses foreign participation by international nuclear energy research organizations with U. S. participants to help maintain the nuclear option worldwide and to leverage research funds.

In FY 2001, the Department will initiate bilateral research through the International Clean Energy Initiative/International Nuclear Energy Research Initiative (I-NERI), focused on advanced technologies to improve the cost and enhance safety, proliferation resistance and waste management of advanced nuclear energy systems. I-NERI research will be conducted on a 50-50 cost-shared basis.

The President's Committee of Advisors on Science and Technology (PCAST) Panel on Federal Energy Research and Development will provide recommendations on the NERI research and development program.

The Department and the agencies which use radioisotope power systems closely coordinate their planning activities to ensure that the power systems built by DOE meet their mission safety, design, and launch schedule requirements. Prior to the launch of a mission using radioisotope power systems, DOE coordinates all launch safety activities with the White House Office of Science and Technology Policy and the Interagency Nuclear Safety Review Panel.

The University program uses an informal advisory group, The University Working Group, which helps coordinate, advise, and guide DOE and University efforts to improve nuclear engineering education in the U.S.

A future deployed Accelerator Transmutation of Waste (ATW) system has the potential to significantly reduce the radioactive toxicity and volume of civilian spent nuclear fuel (waste) and at the same time produce electricity to help offset the cost of the overall program. The ATW program involves several national laboratories, universities and industrial organizations. A key strategy of the program is to collaborate with international efforts in Japan and Europe which have been conducting research into accelerator driven transmutation systems for several years. Russia has unique experience in lead-bismuth eutectic coolant technology which is being shared and developed further in collaboration with the ATW program.

External Factors Affecting Performance:

External factors affecting performance of the NEPO program include: (1) funding from industry and NRC, (2) Kyoto protocol impact on U.S. Energy markets and economics, (3) long-term National energy policy, (4) deregulation legislation implementation and (5) Clean Air Act legislation.

Changing mission requirements from agencies who use radioisotope power systems and risk associated with technological developments could affect the Department's ability to deliver these systems in a timely manner to user agencies.

Industry participation in the DOE Matching Grants program is essentially to trigger a DOE cost-share for

this activity which supports nuclear engineering education at 21 U.S. universities.

Validation and Verification:

Data Sources:	Monthly and quarterly technical reports; quarterly, semiannual, and annual reviews.
Baselines:	Technical baselines are specified in project plans and contracts.
Frequency:	Data is collected periodically–on a monthly basis for some programs; quarterly and semiannually for others.
Data Storage:	The headquarters and field organization managing the project maintains the data on technical progress.
Verification:	Internal, independent technical expert, or peer reviews of technical reports and progress are conducted.

Planned Program Evaluation:

Progress against established plans is evaluated by periodic internal and external reviews. These reviews provide an opportunity to verify and validate the performance data. Monthly, quarterly, semiannual and annual reviews consistent with specific program management plans are held to ensure technical progress, cost and schedule adherence, and responsiveness to user agencies' requirements. These reviews are supplemented by the following:

For NEPO, meetings with NERAC, NERAC Subcommittee on Operating Plants, EPRI Nuclear Power Council, NRC, and the Coordinating Committee for the Joint DOE-EPRI Strategic R&D Plan will be the basis for assessment and evaluation for the program. Recommendations resulting from committee reviews will be incorporated in the updated Joint DOE-EPRI Strategic R&D Plan.

NERI, including the International Clean Energy Initiative/I-NERI, program evaluations will be conducted by the NERAC Subcommittee for Long Range R&D.

For ATW, at least one program management and technical assessment will be conducted per year by the project office with assistance from a team of technical subject matter experts not directly involved in the program. An external review of the program by NERAC may also be performed.

DOE Decision Unit: Fast Flux Test Facility

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub- Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2000** Request ($M)
270 Energy Supply				
Fast Flux Test Facility	-	NE	28	44

Description of the Program:

The Fast Flux Test Facility (FFTF) program provides for the safe and cost-effective maintenance of the FFTF. The FFTF is the Department's only steady-state source for high-energy, high-fluence neutrons to support nuclear research and medical isotope production missions. The FFTF is being maintained in standby while the Department completes a National Environmental Policy Act (NEPA) review of the environmental impacts associated with enhancing the Department's nuclear research facility infrastructure, including the potential restart of the FFTF.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Maintain the Fast Flux Test Facility in a safe, environmentally-compliant standby condition to permit implementation of an anticipated Secretarial decision in FY 1999 to deactivate or pursue potential restart to support a range of national research requirements. (EQ6)* (MET GOAL)	• *Maintain the Fast Flux Test Facility in a safe, environmentally-compliant standby condition while implementing a Secretarial decision to conduct a National Environmental Policy Act review of the environmental impacts of returning the facility to operation. (EQ2-4)*	• *Complete the National Environmental Policy Act review of the environmental impacts of enhancing the Department's nuclear research facility infrastructure and issue a Record of Decision. (SC4)* • *Begin implementation of the Record of Decision which could include either restarting or permanently shutting down the FFTF. (SC4)*

Means and Strategies for FY 2001:

The Department will ensure that essential systems, staffing, and support services are maintained at the necessary levels to keep the facility in compliance with federal and state safety and environmental requirements and allow implementation of the Record of Decision expected in FY 2001.

External Factors Affecting Performance:

FY 2000 funding uncertainties and shortfalls may result in staff reductions and loss of expertise. Recovery from these reductions in FY 2001 would slow, or possibly delay until the next fiscal year, implementation of the Record of Decision to either restart or deactivate the facility.

Validation and Verification:

Data Sources:	Monthly and quarterly technical reports; quarterly, semiannual, and annual reviews.
Data Sources:	Monthly and quarterly technical reports; quarterly, semiannual, and annual reviews.
Baselines:	Technical baselines are specified in project plans and contracts.
Frequency:	Data is collected periodically–on a monthly basis for some programs; quarterly and semiannually for others.
Data Storage:	The headquarters and field organization managing the project maintains the data on technical progress.
Verification:	Internal, independent technical expert, or peer reviews of technical reports and progress are conducted.

Planned Program Evaluation:

The Fast Flux Test Facility program is continuously and closely monitored through the use of: weekly telephone conference calls between headquarters, the field, and the contractor; weekly and monthly reports on technical, cost, and schedule milestones; and on-site program review meetings conducted at least twice a year.

DOE Decision Unit: Termination Costs

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Termination Costs	-	NE	79	74

Description of the Program:

The mission of this program is to manage the Department's vital research and development facilities, such as those at Argonne National Laboratory, and to carry out long-term treatment and management of DOE's sodium-bonded spent nuclear fuel. The name of this program is inconsistent with its current mission–the Department believes that the name of this program should be the "Nuclear Facilities Management" program.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Complete the demonstration of the electrometallurgical spent fuel treatment technology by the end of FY 1999 using Experimental Breeder Reactor-II spent nuclear fuel. (EQ6)* (MET GOAL) • *Complete the conversion and disposition of 100 percent of the secondary sodium coolant from the Experimental Breeder Reactor-II and 40 percent of the Fermi reactor sodium coolant in storage at Argonne National Laboratory-West. (EQ6)* (NEARLY MET GOAL)	• *Complete the conversion and disposition of 100 percent of the secondary sodium coolant from the Experimental Breeder Reactor-II and 40 percent of the Fermi reactor sodium coolant in storage at Argonne National Laboratory-West. (EQ2-4)* • *Initiate draining sodium from EBR-II primary system and processing it for disposal. (EQ2-4)* • *Complete the Fuel Conditioning maintenance items and resume sodium-bonded fuel treatment activities if electrometallurgical treatment is chosen as the most appropriate technology. (EQ2-4)*	• *Complete draining the EBR-II primary system and process 100 percent of all EBR-II sodium in compliance with the INEEL Site Treatment Plan. (EQ5)* • *Complete the conversion and disposition of 100 percent of the Fermi reactor sodium coolant in storage at Argonne National Laboratory-West. (EQ5)* • *If electrometallurgical treatment is chosen as the most appropriate disposal technology, treat 0.6 MTHM of EBR-II spent nuclear fuel. (EQ5)* • *Implement the DOE Lead Laboratory charter and develop comprehensive proposals for research and development projects that contribute to the effort to develop new nuclear energy technologies. (SC4)*

Means and Strategies for FY 2001:

The Department will apply its well-qualified technical staff and unique test facilities to the performance of innovative research, development, and application of nuclear energy technologies. Through this programmatic activity, the Department will resolve spent nuclear fuel disposition problems, improve nuclear technologies, and maintain nuclear power as a viable option for future United States energy supply.

The Department will also develop proposals and identify funding strategies for comprehensive research and development projects that will contribute to the goal of developing new nuclear energy technologies.

Operating costs will be reduced by continuing deactivation of surplus nuclear facilities and placing them in a radiologically and industrially safe and stable shutdown condition. In support of nuclear facility deactivation, the Department will, dependent upon the outcome of the National Environmental Policy Act review, implement electrometallurgical treatment, or some other technology, to effect disposition of DOE sodium-bonded spent nuclear fuel.

Collaboration Activities:

Through implementation of the Lead Laboratory charter, the Department will strengthen its relationship with universities, and laboratories and institutions that are not specifically sponsored or managed by DOE.

External Factors Affecting Performance:

None

Validation and Verification:

Data Sources:	Monthly and quarterly technical reports; quarterly, semiannual, and annual reviews.
Baselines:	Technical baselines are specified in project plans and contracts.
Frequency:	Data is collected periodically–on a monthly basis for some programs; quarterly and semiannually for others.
Data Storage:	The headquarters and field organization managing the project maintains the data on technical progress.
Verification:	Internal, independent technical expert, or peer reviews of technical reports and progress are conducted.

Planned Program Evaluation:

The Termination Costs program staff discuss progress against established plans at monthly tele-video conferences with the Chicago Operations Office Group responsible for Argonne National laboratory (ANL) and ANL-West staff. In addition, semiannual and annual program reviews are held to verify and validate the performance data.

DOE Decision Unit: Isotope Support

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Isotope Support	-	NE	20	17

Description of the Program:

The mission of the Isotope Program is to serve the national need for a reliable supply of isotope products, services, and related technology used in medicine, industry, and research.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Supply quality stable and radioactive isotopes for industrial, research, and medical applications that continue to meet customer specifications and maintain 95 percent on-time deliveries. (ST2-1)* (EXCEEDED GOAL)	• *Supply quality stable and radioactive isotopes for industrial, research, and medical applications that continue to meet customer specifications and maintain 95 percent on-time deliveries. (SC2-1)*	• *Supply quality stable and radioactive isotopes for industrial, research, and medical applications that continue to meet customer specifications and maintain 95 percent on-time deliveries. (SC4)*
• *Initiate construction and commissioning of the Los Alamos Isotope Production Facility to improve isotope quality with greater operating efficiency. (ST2-1)* (MET GOAL)	• *Complete at least 60 percent of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived isotopes for medical research. (SC2-1)*	• *Complete 90 percent of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived isotopes for medical research. (SC4)*
• *Complete equipment installation necessary for an emergency backup supply of molybdenum-99, issue a request for proposals to privatize molybdenum-99 production and business activities by May 1999, and after evaluation, award a contract by September 1999 to the most qualified firm. (ST2-1)* (NEARLY MET GOAL)	• *Invest in two new process development technologies as requested by researchers that enhance isotope production, services and delivery application systems. (SC2-1)* • *Implement the Advanced Nuclear Medicine Initiative by providing isotopes or financial assistance for at least five researchers. (SC2-1)*	• *Invest in two new process development technologies as requested by researchers that enhance isotope production, services and delivery application systems. (SC2)* • *Continue implementation of the Advanced Nuclear Medicine Initiative by providing isotopes or financial assistance for at least 7 to 10 researchers. (SC4)*

Means and Strategies for FY 2001:

The Department will develop new or improved isotope products and services that enable medical diagnoses and therapy, and other applications that are in the national interest, and encourage private sector investment in new isotope production ventures and sell or lease facilities and inventories for commercial purposes.

Collaboration Activities:

A recent panel of recognized experts in the medical isotope community, developed a report entitled, "Forecast Future Demand for Medical Isotopes," prepared for and endorsed by the Nuclear Energy Research Advisory Committee (NERAC), that encourages a more extensive collaborative effort between the Department and the National Institutes of Health in the areas of basic medical isotope research. NERAC is also developing recommendations for the Department's long-term isotope research and development plan. In addition, the Isotope Program has established cooperative supply agreements with facilities in Russia and South Africa, and the Isotope Program will seek additional cooperative supply agreements with other isotope manufacturers to assure that the U.S. has a reliable diverse supply of important isotopes.

External Factors Affecting Performance:

The Isotope Program is a user of facilities operated by other DOE programs. Because of this relationship, any unscheduled outage or change in production schedules negatively affects the Isotope Programs revenue and results in unfilled customer orders unless other foreign producers can provide those isotopes. Also, the market drives prices, and as such, can also negatively affect revenue.

Validation and Verification:

Data Sources:	Monthly and quarterly technical reports; quarterly, semiannual, and annual reviews.
Baselines:	Technical baselines are specified in project plans and contracts.
Frequency:	Data is collected periodically–on a monthly basis for some programs; quarterly and semiannually for others.
Data Storage:	The headquarters and field organization managing the project maintains the data on technical progress.
Verification:	Internal, independent technical expert, or peer reviews of technical reports and progress are conducted.

Planned Program Evaluation:

The Isotope Program staff holds Financial Meetings, Budget Meetings, and holds three Program Managers Meetings and various site visits throughout the year. Conferences such as the Society of Nuclear Medicine Conference are also attended. At these conferences, workshops are planned to meet with stakeholders and customers that further assist with gaining knowledge of the needs of the program.

DOE Decision Unit: Uranium Programs

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Uranium Programs	-	NE	43	53

Description of the Program:

The mission of Uranium Programs is to address the facility and environmental legacies associated with the uranium enrichment program[1], management of government assets, and associated research and development. Primarily, this involves the effective management and disposition of the Department's depleted uranium hexafluoride (UF_6) and excess natural uranium inventories.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Met all commitments made to the Ohio Environmental Protection Agency and the Defense Nuclear Facilities Safety Board to ensure the safety of the Department's inventory of depleted uranium hexafluoride.* *(EQ6)* (MET GOAL) • *Remove all highly enriched uranium oxides from the Portsmouth site.* *(NS4)*	• *Meet commitments to the Ohio Environmental Protection Agency, the Tennessee Department of Environment and Conservation, and the Defense Nuclear Facilities Safety Board to ensure the safety of the Department's inventory of depleted UF_6.* *(EQ2-4)*	• *Initiate procurement to convert the Department's depleted UF_6 inventories.* *(EQ5)* • *Meet legal obligations to the Ohio Environmental Protection Agency and the Tennessee Department of Environment and Conservation, and commitments to the Defense Nuclear Facilities Safety Board to ensure the safety of the Department's inventory of depleted UF_6.* *(EQ5)*

[1]The magnitude of the recently identified environmental legacy issues at Paducah and Portsmouth has not been fully determined. For this reason, this performance plan does not include activities to be conducted under our FY 2000 Budget Amendment and it does not address issues that may arise as a result of site surveys and investigations conducted by the Department's Office of Environment, Safety, and Health.

Means and Strategies for FY 2001:

The Department will continue its efforts to safely maintain its inventory of depleted uranium hexafluoride and prepare quickly to convert this material to a more stable form. This includes maintaining depleted UF_6 storage cylinders in an environmentally responsible manner by conducting annual storage cylinder inspections and developing and implementing options to repair cylinders exhibiting accelerated corrosion. In addition, the Department will begin procurement activities for the design of conversion facilities.

Collaboration Activities:

The Department assists the Nuclear Regulatory Commission in preparing annual reports on the safety status of the diffusion plants. The Department also performs analysis in consultation with the uranium industry in support of the Secretary of Energy's determination with regard to the impact of the sale of excess Departmental uranium on the uranium industries.

External Factors Affecting Performance:

None.

Validation and Verification:

Data Sources:	Monthly and quarterly technical reports; quarterly, semiannual, and annual reviews.
Baselines:	Technical baselines are specified in project plans and contracts.
Frequency:	Data is collected periodically–on a monthly basis for some programs; quarterly and semiannually for others.
Data Storage:	The headquarters and field organization managing the project maintains the data on technical progress.
Verification:	Internal, independent technical expert, or peer reviews of technical reports and progress are conducted.

Planned Program Evaluation:

The Department will use internal and external reviews by headquarters and field elements to evaluate progress against established plans. Periodic performance management reviews of cost, scope and schedule will be conducted with the contractor. The Department will also define and implement a regulatory approach for the program and conduct assessments to assure compliance.

DOE Decision Unit: Domestic Oil and Gas Supply RD&D

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Fossil Energy Research and Development	Oil Technology*	FE	57	43
	Gas Technology**	FE	25	32
Total			83	75

* Excludes $10 million for Ultra Clean Fuels Initiative in F2001, which is included in Clean Fuels

** Excludes $6.3 million in FY2000 and $6.5 million in FY2001 for Gas-to-Liquids, which is included in Clean Fuels.

Introduction of the Business Unit:

The Department's Domestic Oil and Gas Supply Program operates under a single overriding goal: to ensure the availability of competitively-priced oil and natural gas supplies to support a strong U.S. economy. The Program's RD&D activities focus on enhancing the efficiency and environmental quality of domestic oil and natural gas exploration, recovery, processing, transport, and storage operations. Improved technologies and information are required to boost production of natural gas, a clean and abundant domestic fossil fuel that is an increasingly important component of our Nation's energy portfolio, and to extend the life of domestic oil reservoirs. Program efforts are also directed to making environmental regulation cost-effective, compliance feasible, and reasonably economic, while assuring economic access to and recovery of domestic oil and gas resources consistent with effective environmental protection. In FY 2001funding is requested for Natural Gas Technologies for an Energy Grid Reliability Initiative, that seeks to enhance reliability and deliverability of the Nation's natural gas pipelines and gas storage facilities.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Demonstrate four advanced production enhancement technologies that could ultimately add 190 million barrels of domestic reserves, including 30 million barrels during FY 1999 (ER1-1)* (EXCEEDED GOAL) • *Complete development of 1 Advanced Drilling, Completion & Stimulation technology system that could contribute to an additional 6 TCF of domestic gas reserves by 2010. (ER2-2)* (MET GOAL)	• *Complete demonstration and transfer of seven advanced secondary and tertiary technologies, adding 92 million barrels of reserves, increasing the number of economic wells and reducing abandonment rates. (ER1-1)* • *Demonstrate a cost effective horizontal well and advanced exploration and stimulation technologies in low permeability natural gas formations for increasing recovery of the 5,000+ TCF of gas in place in the Greater Green River and Wind River Basins. (ER2-2)*	• *Complete demonstration of four advanced secondary and tertiary technologies, increasing near-term incremental production by 1.1 million barrels of oil, and a long-term increase of over 2 billion barrels of oil. (ER1)* • *Develop and demonstrate technologies with near-term commercialization potential for detecting and quantifying areas of high fracture density in low permeability gas reservoirs.(ER2)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Complete an online environmental compliance expert system, developed in cooperation with States, that will improve oil and gas production economics by giving producers on-line access to Federal and State rules and regulations and allowing them to conduct environmental permitting and reporting over the Internet, reducing time and costs related to environmental compliance. (ER1-1)* (NEARLY MET GOAL)	• *Complete field testing and monitoring of two technologies for downhole separation for oil and water, resulting in reduction in produced water and potential increase in oil production per well. (ER1-1)* • *Identify a site containing gas hydrates suitable for testing the feasibility of methane recovery. (ER5-2)*	• *Demonstrate the field application of a shoulder mounted, portable video methane leak detection system that can be used to significantly reduce costs of leak monitoring at refineries and other facilities while reducing harmful air emissions. Annual savings of $500,000 per year per refinery, on average, would result from regulatory acceptance and application of this technology. (ER1)* • *Quantify a hydrate deposit by correlating core samples with geophysical and well log data. (ER4)*

Means and Strategies for FY2001:

Benefits from demonstrated technologies will be achieved by expediting technology transfer to producers, particularly independents, by developing and demonstrating advanced production technologies and conducting pilot and field-scale demonstrations of proven laboratory technologies, and by working with and supporting industry associations, such as the Petroleum Technology Transfer Council, to provide focused technology workshops, information resource centers, and computer-based information.

Collaboration Activities:

Field demonstrations are conducted with collaboration of industry, academia, and others and with input from National Laboratories. Cost-shared projects improve chances of success and have a direct technology transfer component. DOE is collaborating with EPA and their Common Sense Initiative in order to demonstrate the environmental and economic advantages of new leak detection technology. Such a demonstration is needed to gain regulatory approval of this advanced technology.

External Factors Affecting Performance:

Program results may be affected by world oil prices, corporate mergers and acquisitions, issues related to access to public lands, and new and evolving environmental legislation and regulations.

Validation and Verification:

Data Sources:	DOE fact sheets, project reports, and published articles (i.e. technical journals, trade press)
Baselines:	Project reports. US Geological Survey 1995 assessment of oil and gas resources.
Frequency:	Varies by project (quarterly, semi-annual, annual)
Data Storage:	Project contract files maintained at the NETL
Verification:	FE technical review of project reports and peer review of published articles.

Planned Program Evaluation:

The program and projects contained therein will be evaluated at a Contractor Review Workshop. National Research Council review of gas hydrates program accomplishments is planned on a biannual basis.

DOE Decision Unit: High Efficiency, No/Low Emissions Power Systems RD&D

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Fossil Energy Research and Development	Coal and Power Systems (C&PS)/Central Systems	FE	115	89
	C&PS/Distributed Generation Systems	FE	45	42
	C&PS/Sequestration R&D	FE	9	20
	C&PS/Advanced Research	FE	23	27
Clean Coal Technology	Clean Coal Technology	FE	(146)	(155)
Total			46	23

Description of the Program:

The primary goal for the power systems RD&D program is to develop progressively, cleaner, lower cost and higher efficiency power systems. By 2015 the Vision 21 program is designed to develop systems which produce near-zero level of pollutants while simultaneously reducing electricity costs by 10% to 20%. The systems would also be amenable to carbon dioxide capture and a program is underway to develop technologies to sequester carbon dioxide emissions either through direct capture or enhancing natural sinks.

Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Initiate a coordinated Department wide collaborative research program to develop lower-cost, environmentally acceptable technology approaches to carbon capture and sequestration. (ER5-2*) (MET GOAL) • *Issue draft report which identifies key research needs in several aspects of sequestration and select six concepts to identify promising sequestration options. (ER5-2)* (MET GOAL)	• *Commence 3-4 small scale carbon sequestration development projects from those selected in the FY 1998 Novel Concepts solicitation, and feasibility studies for 1-2 sequestration projects selected under FE's August and September 1999 solicitations. (ER5-2)*	• *Demonstrate hydrogen CO2 separation from syngas to meet the long-term goals of providing low-cost hydrogen for high-efficiency fuel cells and for providing concentrated CO_2 streams for sequestration. (ER5)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Successfully operate 100 kWe solid oxide fuel cell for 4000 hours. (ER2-4)* (MET GOAL) • *Complete full-scale component testing of two advanced, utility-scale turbines with over 60 percent efficiency when used in combined cycles (new plants are currently about 55 percent) and with ultra-low NOx emissions. Initiate advanced gas turbine full speed, no load testing with one gas turbine manufacturer. (ER2-4)* (MET GOAL) • *Complete commercial demonstration of one integrated gasification combined cycle project (Wabash) and continue operations of two other gasification projects in order to establish the engineering foundation leading to new generation of 60 percent efficient, ultraclean, coal powerplants. (ER2-4)* (MET GOAL)	• *Begin testing of first market prototype solid oxide fuel cell for distributed power applications. (ER2-4)* • *Complete validation testing for critical components of advanced utility-scale turbines with over 60 percent efficiency (combined cycles mode) and ultra-low NOx emissions. (ER2-4)* • *In support of Vision 21, complete testing of a 250kw fuel cell/turbine hybrid and deliver a conceptual design of a 1-MW fuel cell/turbine hybrid powerplant to facilitate market entry. (ER2-4)* • *Complete demonstration of the third integrated gasification combined cycle project (Pinion Pine) utilizing air-blown gasification and hot gas cleanup for improved thermal efficiency, and continue operations of one other project (Polk) in order to establish the engineering foundation leading to new generation of 60 percent efficient powerplants. (ER2-4)* • *Complete pilot studies on mercury emission controls that augment existing pollution control technologies, and are expected to reduce mercury emissions by over 50 percent at less than half the cost originally estimated in EPA's December 1997 report to Congress on Mercury. (ER2-4)* • *Complete the first large scale (600MW) test of selective non-catalytic reduction, which will allow coal-fired power plants to satisfy ozone transport (OTAG) requirements for reduction of emissions of oxides of nitrogen and also reduce fine particulate matter. (ER2-4)*	• *Begin testing of a 300Kw-1Mw solid oxide fuel cell/turbine hybrid commercial prototype for distributed power applications. (ER2)* • *For the second gas turbine manufacturer, initiate field test of 59% efficient (combined cycle mode) utility-scale turbine with advanced blades. (ER2)* • *Begin demonstration of a 300MW to 1-MW Molten Carbonate Fuel Cell Powerplant System to verify market entry design. (ER2)* • *Complete design and initiate construction of Advanced Pressurized Circulating Fluidized Bed (APCFB) demonstration project at Lakeland, FL. (ER2)* • *Complete design and continue construction of Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, FL. (ER2)* • *Initiate construction of a fixed-bed slagging gasification and fuel cell demonstration project (Clean Energy Project). (ER2)* • *For carbon sequestration, expand the number of possible cost-effective, collaborative, multi-national applied R&D options carried to "proof of concept" stage. Complete multiple field experiments on promising technologies. (ER4)* • *Complete testing of a selective non-catalytic low-cost NOx reduction technology. (ER2)* • *Begin testing of a sorbent for controlling all forms of mercury emissions. (ER2)* • *Complete initial test of the IGCC transport gasifier.*

Means and Strategies for FY 2001:

The program will continue to promote a strategy in power systems R&D that incorporates a focused and collaborative effort between government and industry to achieve the environmental and economic goals of the technologies. It will continue its dissemination of information and data and build on government-industry partnerships to commercialize clean coal technologies. For carbon sequestration, the program will continue to strive to increase domestic and international partnerships to complete field experiments on promising options.

Collaboration Activities:

For carbon sequestration, FE will continue to collaborate with the Office of Science, other parts of DOE, and other government agencies, as appropriate, to meet the program goals. For all activities FE will also work collaboratively with other government and industry partners, and participate in the International Energy Agency Greenhouse Gas (IEAGHG) R&D program. Significant cost-sharing opportunities are possible through existing and new research agreements.

External Factors Affecting Performance:

Program results may be affected by world prices for competitive feedstocks and energy technologies, and from new and evolving environmental regulations, or any new legislation – in particular, related to CO_2 and air pollutants – that affect coal use. Also, industry restructuring/deregulation issues and uncertainties will continue to challenge coal use until the impacts on the industry become clearer. Program results may be particularly affected by both evolutionary and revolutionary approaches to carbon sequestration.

Validation and Verification:

Data Sources:	DOE fact sheets, project reports, and published articles (i.e., technical journals, trade press)
Baselines:	Project reports
Frequency:	Varies by project (monthly, quarterly, semi-annual, annual)
Data Storage:	Project contract files maintained at the FETC: Clean Coal Compendium of Information available at www.lanl.gov/projects/cctc. Carbon Sequestration Websites.
Verification:	FE technical review of project reports and peer review of published articles

Planned Program Evaluation:

The program and projects contained therein will be evaluated at the Annual Contractor's Meeting.

DOE Decision Unit: Clean Fuels RD&D

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Fossil Energy Research and Development	Coal and Power Systems/Fuels	FE	20	16
	Natural Gas Technology/ Gas-to-Liquids	FE	6	6
	Oil Technology/ Ultra Clean Fuels	FE	0	10
Total			26	32

Description of the Program:

The Integrated Fossil Energy Clean Fuels Program is implementing partnerships with industry to insure a stable, affordable supply of transportation fuels capable of meeting existing as well as proposed emission requirements defined in EPA regulations. This is being accomplished by supporting the development and deployment of innovative technologies to provide ultra-clean burning, high performance transportation fuels from fossil energy resources. These activities support the Department's Ultra-Clean Transportation Fuels Initiative (UCTFI). This initiative promotes, in partnership with the refining and transportation industries, the development and deployment of technologies that will produce ultra-clean, high performance transportation fuels for the 21st century from both petroleum and non-petroleum sources. These will enable the introduction of advanced, highly efficient fuel/engine combinations being developed by the Department, such as the Partnership for a New Generation of Vehicles (PNGV), which offers the promise of lower regional emissions and greater than double the miles per gallon of fuel. In the nearer term, ultra-clean transportation fuels can be produced from improved or new refinery upgrading technology. In the mid-to-longer term, ultra-clean transportation fuels from natural gas, coal and other carbonaceous feedstocks would enjoy a high level of compatibility with the existing infrastructure, and could provide environmental benefits due to their suitability for use in advanced, high-efficiency vehicle engines. The initiative will have two components. The first component will include R&D projects that lead to the production of sufficient quantities of fuel to validate performance and emissions -- testing that will be done in collaboration with DOE's Office of Transportation Technologies. The second component is a supporting research program carried out by National Laboratories and co-sponsored with the fuel industry that is focused on the development of advanced fuel-making process components, materials, and chemistry needed for the manufacture of ultra-clean performing transportation fuels.

Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
	• *Complete solicitation for, and selection of, candidate industrial teams for the Entry Entrance Coproduction Plant (EECP) project in which innovative alternative fuels will be coproduced along with electricity and chemical products. (ER1-4)*	• *Complete operation of LaPorte Slurry Phase Reactor for production of advanced ultra-clean fuels for engine testing. (ER1)* • *Complete negotiations with industrial teams selected to implement the EECP project and initiate Phase I of the three-phase activity. (ER1)* • *Begin laboratory scale test operations of a novel syngas ceramic membrane reactor to reduce gas-to-liquid fuel conversion costs and initiate construction of first stage scale-up of the reactor. (ER1)*

Means and Strategies for FY 2001:

The program will continue to develop innovative processes, in partnership with industry and other Government organizations, for the production of ultra-clean fuels required by the transportation sector in the 21st Century. These fuels will meet the proposed EPA Tier II Transportation Vehicle Requirements, and for feedstocks that include solid fuels, will initially be produced in co-production facilities that will provide fuels in sufficient quantities for large-scale fleet testing. The program will also accelerate process delineation and development for ultra-clean, high performance, gas-derived liquid motor fuel products suitable for deployment in Alaska, the Gulf of Mexico, and other remote sites.

Additional activities will continue to develop technologies to improve the environment through the reduction and/or elimination of waste products from coal, petroleum coke, and heavy oil utilization and/or conversion processes and reduce the emissions of airborne toxic emissions by removing the precursor elements before they enter the energy utilization/conversion process and are subsequently discharged.

Collaboration Activities:

Criteria essential to setting performance goals and programmatic content are being obtained through informational exchanges and meetings with the Environmental Protection Agency, the Department of Commerce, and the Department of Transportation

External Factors Affecting Performance:

Actions taken by the EPA in setting the final requirements of the Tier II Regulations for Emissions from Motor Vehicles and/or the transportation sector, in conjunction with the associated schedule for their implementation, will greatly influence the priority given to these activities. Program results may be affected by world prices for competitive feedstocks and energy technologies. Finally, new and evolving environmental regulations or any new legislation – in particular, related to CO_2 and air toxics – that affect coal use, could have an impact.

Validation and Verification:

Data Sources:	DOE fact sheets, project reports, and published articles (i.e., technical journals, trade press)
Baselines:	Project reports
Frequency:	Varies by project (monthly, quarterly, semi-annual, annual)
Data Storage:	Project contract files maintained at the FETC: Clean Coal Compendium of Information available at www.lanl.gov/projects/cctc
Verification:	FE technical review of project reports and peer review of published articles

Planned Program Evaluation:

The program and projects contained therein will be evaluated at the Annual Contractor's Meeting.

DOE Decision Unit: FE R&D Crosscutting and Special Activities

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Fossil Energy Research and Development	Program Direction and Management Support	FE	75	75
	Plant and Capital Equipment	FE	3	2
	Environmental Restoration	FE	10	9
	Cooperative Research and Development	FE	7	6
	Fuels Programs	FE	2	2
	Advanced Metallurgical Research	FE	5	5
	Prior Year Offsets	FE		(9)
	Great Plains Project Trust (Interest)	FE		(1)
Total			103	89

Description of the Program:

This decision unit includes items that are in the overall FE R&D area but are not part of the main FE R&D business lines. In particular:

- Program Direction and Management Support provides funding for salaries, benefits and overhead expenses for management of the FE program at Headquarters, the Federal Energy Technology Center, and the National Petroleum Technology Office.
- Environmental Restoration funds activities to ensure protection of workers, the public, and the environment in performing the FE mission at FE field facilities.
- Cooperative R&D funds collaborative strategic research at two former FE facilities
- The Fuels Program includes management of the regulatory review of natural gas imports and exports, exports of electricity, and the construction and operation of electricity lines that cross U.S. international borders
- Advanced Metallurgical Research carries out research concerning the extraction, processing, use and disposal of mineral substances at the Albany Research Center in Oregon.

These are relatively small activities in FE and thus performance measures are not included for the Annual Performance Review (although measures are included in the budget narrative).

DOE Decision Unit: Petroleum Reserves

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Strategic Petroleum Reserve	-	FE	158	158
SPR Petroleum Account				(7)
Naval Petroleum and Oil Shale				0
Elk Hills School Lands Fund				36
Total			158	187

Introduction of the Decision Unit:

Petroleum Reserves includes the Strategic Petroleum Reserve (SPR) and the Naval Petroleum and Oil Shale Reserves (NPOSR). The SPR ensures and maintains the readiness capability to drawdown and distribute crude oil from the SPR inventory to commercial distribution systems in order to protect the domestic U.S. economy from the impact of energy supply disruptions. SPR executes U.S. obligations to act cooperatively with member nations of the International Energy Agency (IEA) to deter or respond to supply disruptions which would adversely affect member nations. The NPOSR, following the sale of Elk Hills, its primary asset, to the private sector in February 1998, continues to manage, operate, maintain and produce three properties remaining under its jurisdiction. The program is relatively small, and no performance measures are included in the Performance Plan. Also included is the Elk Hills School Lands Fund, which was established to settle certain Elk Hills related lands claims with the State of California.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Initiate additional SPR infrastructure Life Extension Program projects, thereby bringing program implementation to approximately 96% of the $328 million program. Program completion in FY 2000 will increase sustained drawdown capability to 4.1 million barrels per day, compared to 3.7 in FY 1997.* *(ER1-2)* (MET GOAL)	• *Complete the Life Extension Program to ensure the long-term reliability, effectiveness, and operational readiness of SPR facilities and systems. (ER1-2)* • *Ensure the achievement of a calculated site availability of 95% or greater with drawdown capability of 4.1 million barrels per day for a sustained 90 day period within 15 days notice by the President. (ER1-2)* • *Complete contracting for the transfer and/or exchange of 28 million barrels of Federal Royalty Oil from the Department of the Interior for a net increase of approximately 23 million barrels in SPR inventory, with deliveries of a remaining 4 million barrels in FY 2001. (ER1-2)*	• *Ensure achievement of a calculated site availability of 95% or greater with drawdown capability of 4.1 million barrels per day for a sustained 90 day period within 15 days notice by the President. (ER1)* • *Continue the transfer of Federal Royalty Oil to SPR at a net rate of 25 million barrels per year until inventory reaches 700 million barrels. (ER1)*

Means and Strategies for FY2001:

SPR will continue its mission to maintain the operational readiness of SPR facilities to draw down oil within 15 days of notice by the President at set performance levels. Assurance of this readiness posture will be accomplished through internal readiness reviews, assessments, exercises and tests. Effectiveness of the SPR to mitigate the economic damage of severe oil supply disruptions on the economy will be influenced by the SPR's size (inventory and capacity) and ability to deliver into the marketplace. Department has attempted several strategies over the years (direct purchase and storage service agreements with public, private and foreign entities) to acquire oil to complete SPR fill. Current Departmental agreement with the Interior Department during FY 1999 provides for using 28 million barrels of Federal Royalty Oil to help fill the SPR. The agreement will add an estimated 27 million barrels of crude oil to the SPR. A continuation of the transfer could add additional oil to the SPR inventory each fiscal year until the 700 million barrel capacity is filled.

Collaboration Activities:

DOE coordinates its activities for the SPR with the White House National Economic Council and the Departments of the Interior and Treasury as a member of the Interagency Working Group on Oil and Gas. Acquisition of oil through Federal royalty-in-kind oil leases is being coordinated with Interior Department's Minerals Management Service. SPR is conducting an interagency size study with OMB, the Council of Economic Advisors, Treasury and the CIA to determine an Administration policy on optimal SPR size and oil acquisition strategy.

External Factors Affecting Performance:

Performance can be affected by petroleum market conditions and developments in the commercial distribution system (i.e. pipelines, terminals). Continuing royalty-in-kind transfers during FY 2001, in addition to those per the FY 1999 agreement, will be contingent on future successful negotiations with Department of the Interior.

Validation and Verification:

Data Sources:	Operations status reports, project assessment reports, and project and program reviews. Energy Information Administration (EIA) oil industry databases.
Baselines:	Technical project baselines, Operational Readiness performance criteria, SPR annual Performance Plan, contractor annual operating and work authorization plans, and budget baseline.
Frequency:	Daily operational status reports, monthly project reviews and quarterly program reviews. Annual and monthly EIA data sources.
Data Storage:	Operations and facilities management data is maintained at SPR field office. This includes project assessment and M&O contractor performance data. Program policy analysis and initiatives, legislative guidance, and oil industry research data is maintained at the Headquarters SPR Program Office.
Verification:	Combination of daily field and Headquarters staff interaction, monthly and quarterly reporting/reviews, and online access to performance data provides a continuous means throughout the fiscal year to verify and validate performance data.

Planned Program Evaluation:

Monthly project reviews and quarterly program reviews, conducted by Federal and contractor personnel of the SPR, provide an important means for evaluating progress against program plans like the SPR Annual Performance Plan and scheduled project management activity. Budget formulation/execution assessments are regularly conducted throughout the year, including annual budget validations. Other evaluations include: semiannual M&O contractor award fee performance assessments against Work Authorization Directives; on-site reviews each year to verify operational, maintenance and management performance data; and, Drawdown Readiness quarterly reviews.

DOE Decision Unit: Building Technology, State and Community Programs

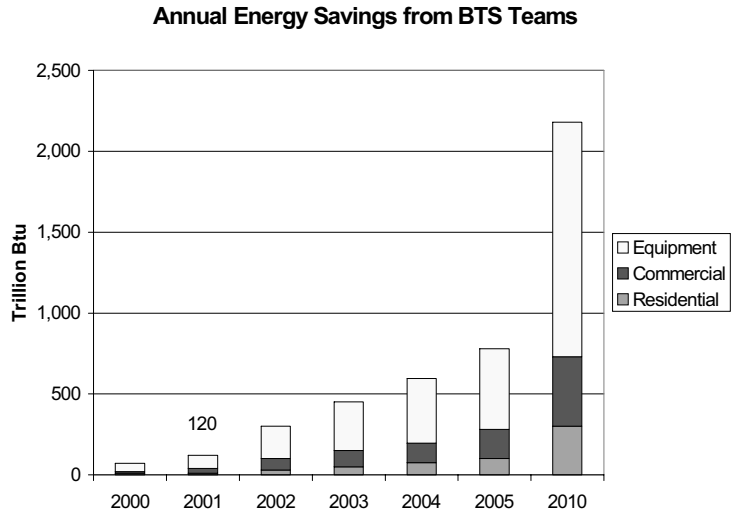
President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Unit**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Building Technology, State and Community Programs--non-grant	BTS–non-grant	EE	116	149
Building Technology, State and Community Programs--grant	BTS–grant	EE	169	191
Total			284	340

Introduction of the Decision Unit:

In partnership with industry and government, the Office of Building Technology, State and Community Programs (BTS) develops, promotes, and integrates energy technologies and practices to make buildings more efficient and affordable and communities more livable.

Annual Performance Goals:

Discussion: The longer-term BTS goal is to reduce annual energy consumption by 2 quadrillion btu by the year 2010, relative to what would have otherwise been consumed. The 2001 goal is to reduce annual energy consumption by 120 trillion btu. For comparison purposes, 100 trillion btu is the amount of energy required to power half a million households at 1998's rate of usage. Energy savings will occur in residential buildings, commercial buildings and equipment. This goal supports DOE strategic objective ER3.



Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Weatherize 67,845 homes, bringing the total number of homes weathered to 4.7 million. (ER3-3)* (EXCEEDED GOAL)	• *Weatherize 68,000 homes, bringing the total number of homes weatherized to 4.8 million. (ER3-3)*	• *Weatherize 74,800 homes, bringing the total number of homes weatherized to 4.9 million. (ER3)*
• *Work with the Federal Trade Commission to allow manufacturers to add the ENERGY STAR logo to the yellow and black FTC "Energy Guide" labor for covered products and recruit an additional 1,500 stores to market ENERGY STAR appliances nationwide. (ER3-3)* (EXCEEDED GOAL)	• *Recruit 5 utility partners to promote ENERGY STAR products; an additional 500 retail stores to promote Energy Star products; and 40 window partners to promote Energy Star Windows. (ER3-3)*	• *Recruit 500 new ENERGY STAR partners, bringing the total number of stores marketing ENERGY STAR appliances up to 5,000. (ER3)*
• *Recruit 55 additional Rebuild America partnerships. New partners will begin action plans that will result in over 250 million square feet of floor space renovated, reduce annual energy costs by over $90 million and reduce annual carbon emissions by 0.22 million metric tons. (ER3-3)* (MET GOAL)	• *Recruit 50 new Rebuild America Partners, increasing the total number of Rebuild America communities to 290. New partners will begin action plans that will result in over 100 million square feet of floor space renovated, reducing annual energy costs by $28 million and reducing CO2 emissions by 100 thousand metric tons when local actions are completed in 2003. (ER3-3)*	• *Recruit 50 new Rebuild America partners, increasing the total number of rebuild America communities to 340. (ER3)*
	• *Issue final rules regarding energy efficiency standards for flourescent lamp ballasts and water heaters and issue proposed rules regarding energy efficiency standards for clothes washers and central air conditioners. (ER3-3)*	• *Publish ANOPR concerning standards for commercial HVAC and water heaters, and distributed transformers.(ER3)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Complete 100 homes that are over 50 percent more efficient than typical homes through the Building America program, bringing the total number of homes completed to 700, add five new community scale projects for building 1000 additional homes in FY2000, and transfer research recommendations to the Partnership for Advancing Technology in Housing (PATH). (ER3-3*) (EXCEEDED GOAL)	• *In partnership with Building America, develop more than 2,000 highly energy-efficient, environmentally sound, and cost-effective houses and disseminate results to builders of 15,000 other houses through Partnership for Advanced Technology in Housing (PATH). (ER3-3)*	• *With Building America Partners, complete 3,000 energy efficient environmentally sound high performance homes. (ER3)*

Means and Strategies for FY2001:

Savings in residential buildings will be realized through research and development focusing on integrating design and equipment; residential building codes; weatherization assistance; contributions to the Partnership for Advancing Technology in Housing (PATH); and community energy programs.
Savings in commercial buildings will be realized through research and development targeted towards design, operation, and maintenance of energy-efficient commercial buildings; commercial building codes; state energy grants; and all community energy programs.
Equipment savings will be realized through research on building materials (e.g., roofs, walls, windows) and equipment, lighting, appliances, and the development and implementation of appliance and equipment standards; and promotion of Energy Star buildings.

Collaboration Activities:

BTS collaborates with the Environmental Protection Agency (EPA) and Department of Housing and Urban Development (HUD), buildings industries, state and local governments and organizations and the National Laboratories in efforts to promote the use of efficiency technologies and practices, in part through the greater involvement of the buildings community in research, development and deployment activities.

External Factors Affecting Performance:

Numerous factors may impact achievement of BTS' goals, including program funding, the state of the economy, energy prices, consumer choice, regional disparities, and overall structural change in the buildings market. The energy savings goal assumes a robust construction market to generate the demand for new, energy efficient housing and commercial space, as well as demand for remodeling and commercial retrofits to replace aging and relatively inefficient equipment.

Characteristics of new construction that would tend to increase energy consumption in residential buildings would be larger homes, more construction in temperate climates, and an increase in tele commuting. Increased electrification (more computers, printers, fax machines) and shifts in the relative mix of commercial buildings (e.g., hospitals versus office buildings) can contribute to a rise in energy use and intensity in the commercial sector.

Validation and Verification:

Data Sources:	EIA Annual Energy Review (AER); Commercial Building Energy Consumption Survey (CBECS); Residential Energy Consumption Survey (RECS); and Annual Energy Outlook (AEO). US DOC Current Industrial Reports (CIR). Various trade publications. Information collected directly from BTS performer or partner.

Baselines:	Energy savings are based on market penetration of technologies after the year 2000. Savings are relative to what energy consumption would have been in the absence of this market penetration.
Frequency:	Complete revalidation of assumptions and results can only take place every 3-4 years due to the reporting cycle of two critical publications CBECS and RECS. However, annual updates of most of the baseline forecast and on BTS program outputs will be undertaken annually.
Data Storage:	EIA and DOC data sources are publicly available. Trade publications are available on a subscription basis. BTS program output information is contained in various reports and memoranda.
Verification:	Calculations are based on assumptions of future market status, equipment or technology performance, and market penetration rates. These assumptions can be verified against actual performance through technical reports, market surveys, and product shipments.

Planned Program Evaluation:

Each year, all programs will be evaluated as to progress towards stated goals and objectives, in terms of milestones accomplished. More in-depth evaluations will be performed on selected programs on a rotating basis. These analyses will gauge actual performance of technology or practice in the field and the extent of energy savings based on this performance and rate of adoption.

DOE Decision Unit: Energy Management

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Unit**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Federal Energy Management Program	Federal Energy Management	EE	24	30
Solar and Renewable Energy	Departmental Energy Management	EE		5
Total			24	35

Introduction of the Decision Unit:

The mission of the Federal Energy Management Program (FEMP) is to reduce the use and cost of energy in the Federal sector by advancing energy efficiency, water conservation, and the use of solar and other renewable energy sources. FEMP accomplishes its mission by leveraging both Federal and private resources to provide technical and financial assistance to other Federal agencies, which take actions and make investments that increase energy efficiency and renewable energy utilization, and reduce water consumption in their buildings, facilities and operations.

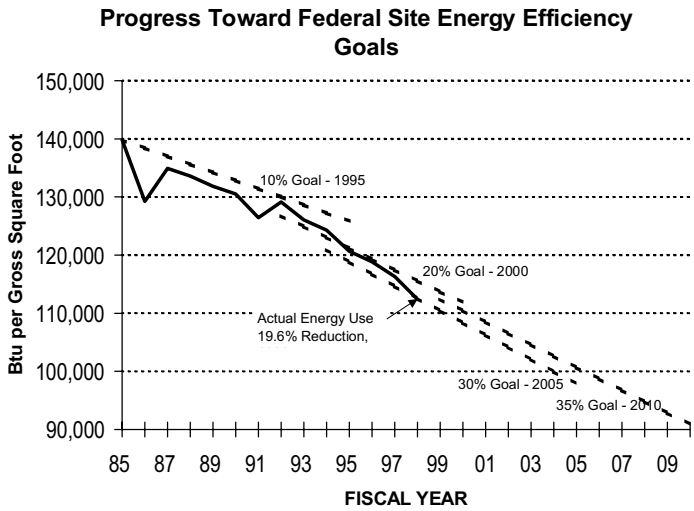
Annual Performance Goals:

Discussion: The Federal Government has established the goal of increasing energy efficiency in Federal buildings by 20% by 2000 and by 35% by 2010, relative to 1985. The Federal Government has virtually achieved its 2000 goal, improving energy efficiency from 1985 to 1998 by 19.6%. The goal for 2001 is to achieve a 22% improvement in energy efficiency relative to 1985.

Executive Order 13123 established goals for efficiency improvement in Federal industrial and laboratory facilities of 20% in 2005, and 25% by 2010 from a 1990 baseline. Methods for measurement of these goals will be determined in FY 2000.

The Federal Government also has the goal of increasing renewable energy use at federal facilities and buildings. Specific targets for 2001, 2005 and 2010 will be established in FY2000.

Executive Order 13123 established a goal of reducing greenhouse gas emissions attributable to Federal buildings energy use by 30% by 2010 from a 1990 baseline, through cost-effective energy efficiency improvement. Methods of, and guidance for calculating progress against this goal will be established in FY 2000.



These goals support DOE strategic objectives ER2 and ER3.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	FY 2001 Proposed Target
• *Complete three nationwide solar technology Super-Energy Savings Performance Contracts (Super ESPCs) for use by all agencies. (ER2-3)* (BELOW EXPECTATION)	• *Complete one nationwide technology Super-Energy Savings Performance Contract (ESPC) for use by all agencies, bringing the total number of technology Super-ESPCs to four. (ER2-3)* • *Continue efforts to reduce the use of energy in Federal buildings and report the results achieved through the end of FY 1998, towards the goal of achieving a 20 percent reduction by the end of FY 2000 as compared to 1985 energy use. Preliminary data indicates that agencies had achieved a 17 percent reduction at the end of FY 1997. (ER3-3)*	• *Complete one nationwide technology Super Energy Savings Performance Contract (ESPC) for use by all agencies, bringing the total number of technology Super ESPCs to four. (ER3)* • *Continue efforts to reduce the use of energy in Federal buildings and report the results achieved through the end of FY 1999, towards the goal of achieving a 22 percent reduction by the end of FY 2001 as compared to 1985 energy use. Preliminary data indicates that agencies had achieved a 17 percent reduction at the end of FY 1997. (ER3)*

Means and Strategies for FY2001:

FEMP will achieve the above goals through three strategies: Project Financing, which focuses on developing, and helping agencies to implement alternative methods of financing projects; Technical Guidance and Assistance, which aims to transfer to Federal agencies the knowledge and expertise required to make sound efficiency and renewable energy technology investment choices; and, Interagency Coordination which establishes and promotes the existence of a Federal energy management, policy and regulatory infrastructure necessary for consistent.

Collaboration Activities:

FEMP collaborates with states, local governments, utilities and energy service companies (ESCOs), associations, and other private sector organizations. FEMP collaborates with other agencies on specific efficiency and renewable energy projects as an integral part of program delivery strategy. FEMP also collaborates with EPA on energy efficient procurement through coordination with the DOE-EPA Energy Star program.

External Factors Affecting Performance:

Reliance on private sector financing for Federal efficiency exposes program to risks inherent in business cycle, such as energy price decline (utility industry restructuring) and interest rate increases, which potentially impact the cost and extent of efficiency improvements and advanced technology adoption. Environmental policies and regulatory actions influence energy management decision making, both positively and negatively. The size and composition of the Federal building stock is outside the control of the program; inefficient growth can adversely impact goal achievement and environmental performance.

Validation and Verification:

Data Sources:	Annual reports from agencies on energy use, cost, gross square footage, exempt facilities. Annual reports are supplemented by FEMP program specific tracking & reporting.
Baselines:	Federal energy management goals are measured from 1985 and 1990 levels. Goals are expressed in BTU per gross square foot, and are not normalized for other factors.
Frequency:	Annual

Data Storage:	FEMP maintains a database of reported information. Agencies maintain their own, more detailed, data.
Verification:	No third party verification. Reporting anomalies are identified and resolved during annual reporting cycle.

Planned Program Evaluation:

Although no formal program evaluations are planned, FEMP has built in performance feedback into its program execution. FEMP regularly conducts customer feedback surveys for its training and technical assistance activities. Regular meetings are held with agencies, utilities and ESCOs to receive feedback and to work on improved performance. FEMP is conducting operational planning activities and is identifying process improvement opportunities to reduce costs, improve timeliness of program delivery, and to raise customer satisfaction levels.

DOE Decision Unit: Industry Sector

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Industry Sector	-	EE	175	184

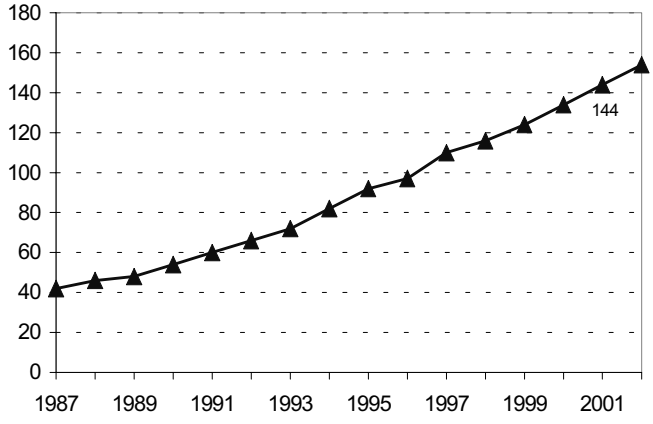
Introduction of the Decision Unit:

The mission of the Office of Industrial Technologies (OIT) is to improve the energy efficiency, environmental performance, and productivity of energy-intensive industries by rapidly developing and delivering advanced science and technology options which will: 1) lower raw material and depletable energy use per unit output; 2) improve labor and capital productivity; and 3) reduce the generation of wastes and pollutants.

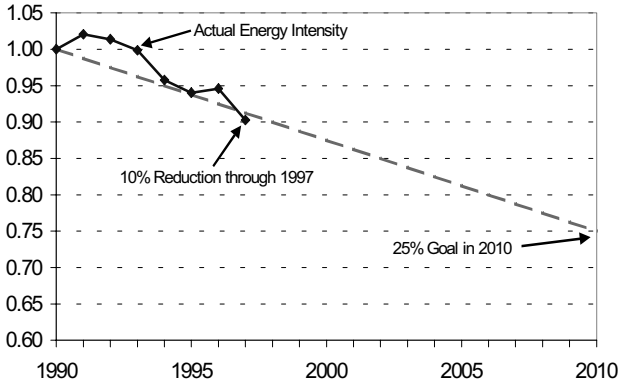
Annual Performance Goals:

Discussion: The Department's longer-term goal is to reduce industrial energy intensity (energy consumption per dollar of output) to 25% below its 1990 level. By 1997 industrial energy intensity was 10% below 1990 levels, which is on track for the 14% target for 2001. Annual energy savings from OIT-developed technologies is estimated to be 170 TBtu in 2001, for a cumulative savings of 1590 TBtu. Annual energy savings from the Industrial Assessment Center (IAC) and best practices programs will be 90 TBtu in 2001, for a cumulative savings of 917 TBtu. Ten OIT technologies will be commercialized in 2001, bringing the total number of commercialized technologies to 144. These goals support DOE strategic objectives ER2 and ER3.

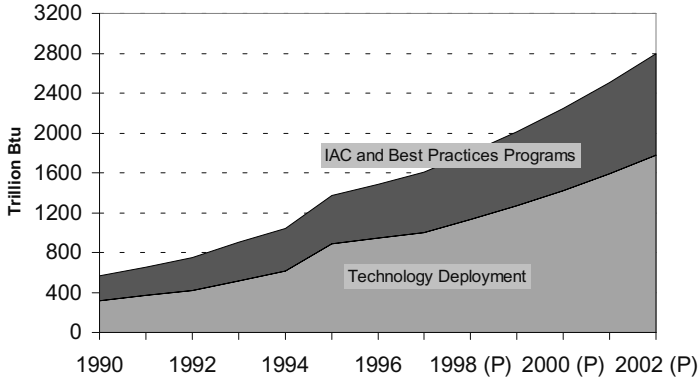
Cumulative Number of Technologies Commercialized



Industrial Energy Intensity (1990 = 1.00)



Cumulative Energy Savings from Technology Access and Deployment Programs



Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Complete roadmaps for six of the major energy intensive industries to achieve each industry vision and start implementing the resulting R&D to achieve up to 25 percent reduction of energy consumption by 2010. (ER3-2)* (MET GOAL)	• *Initiate 12 solicitations with industry in support of the roadmaps developed in the Industries of the Future program.. (ER3-2)*	• *One new solicitation will be issued in FY 2001 targeted to the Renewables Vision 2020 for Agriculture in support of the goals of the President's Bio-based Products and Bio-energy initiative. (ER3)*
• *Continue support for Industrial Assessment Centers operating at 30 participating universities that will conduct approximately 750 combined energy, waste and productivity assessments. (ER3-2)* (MET GOAL)	• *Continue support for Industrial Assessment Centers operating at 30 participating universities that will conduct approximately 750 combined energy, waste, and productivity assessments.(ER3-2)* • *Establish partnerships with 50 Industries of the Future plants to provide integrated delivery of tools and technical assistance to target motors, steam, compressed air, and combined heat and power system opportunities. (ER3-2)*	• *Continue support for Industrial Assessment Centers operating at 30 participating universities that will conduct approximately 750 combined energy waste and productivity assessments. (ER3)* • *Complete 15 Assessments on 5 case studies of major industrial plants that will document for a variety of system-focused implemented actions. These will influence replication of similar energy savings for other plants. (ER3)*
• *Initiate the 8,000 hour test of the gas turbine engine for the Advanced Turbine System for use in industrial cogeneration. (ER2-9)* (MET GOAL)	• *Demonstrate two advanced industrial turbine system engines at end-user sites. (ER2-9)*	• *Complete 5000 hour durability , performance and emissions testing of the Mercury 50 advanced turbine System engine . (ER2)*

Means and Strategies for FY2001:

The above goals will be achieved by developing technologies with applications in specific industries and across industries. Strategies for specific industries include: In the agriculture industry, increasing the percentage of basic chemical building blocks derived from plant/crop-based renewables. Reducing unit energy consumption for primary and secondary aluminum production. Reducing energy consumption per pound of chemicals produced. Moving the forest products industry to being a net producer of electricity. Reducing energy requirements for glass melting. Increasing yield, reducing scrap, and improving melting efficiency in the metal casting industry. Reducing the amount of energy used to crush rock in the mining industry. Improving the efficiency of petroleum refining. In the steel industry, improving sensing and controls of the major energy intensive unit processes, and reducing the use of virgin raw materials.

Strategies for developing technologies that cut across industries include: Developing advanced industrial materials such as intermetallic alloys. Increasing ceramic application survival and material strength. Reducing boiler, burner and heater/furnace specific fuel consumption. Commercializing sensors and controls. Improving the efficiencies of advanced turbines, microturbines, and reciprocating engines.

Financial and technical assistance will also help achieve the goals. Financial assistance through the NICE3 and Inventions and Innovations programs will increase the number of technologies in the marketplace. Technical assistance and training will be provided through the university based Industrial Assessment Center program. Industry adoption of best available technologies and services will be accelerated through the best practices program.

Collaboration Activities:

The Department collaborates on its RD&D with the industries identified above and with universities. The Department also collaborates with other government agencies including the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), and the Departments of Defense (DOD), Commerce (DOC), Agriculture (USDA), and Interior (DOI).

External Factors Affecting Performance:

Performance will be affected by the state of the economy. If the economy grows 50% slower than is projected then energy intensity in 2010 is estimated to be only 16% below 1990 levels. Performance will also be affected by the varying growth across industries and the value of each industry's output.

Validation and Verification:

Data Sources:	Energy intensity is calculated from the Energy Information Administration's (EIA's) Manufacturing Energy Consumption Survey and Department of Commerce data. The number of technologies and their energy savings is ascertained through interviews with technology developers and suppliers. Energy savings for the IAC and challenge programs are estimated.
Baselines:	Industrial energy intensity: 1990. Energy savings and commercialized technologies: 1976.
Frequency:	Data for energy intensity is collected once every 4 years. Annual estimates can be made based upon data from Department of Commerce annual surveys. Data on energy savings and technologies commercialized are collected annually.
Data Storage:	Energy intensity information is contained on EIA's computers. Data on energy savings and technologies commercialized are stored in OIT's Impacts Database.
Verification:	EIA quality control and outside peer review of the Manufacturing Energy Consumption Survey. Data on energy savings and technologies commercialized are reviewed by industry representatives.

Planned Program Evaluation:

Annual program and portfolio reviews are conducted by the individual programs. Vision and roadmaps in three areas will be evaluated by the RAND Corporation. The National Academy of Sciences will be looking at mining opportunities for the future.

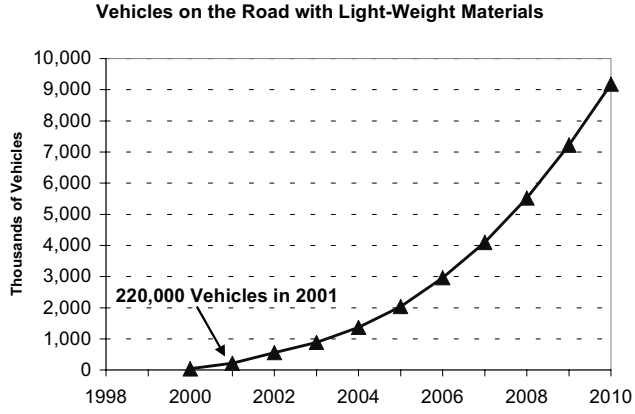
DOE Decision Unit: Transportation Sector

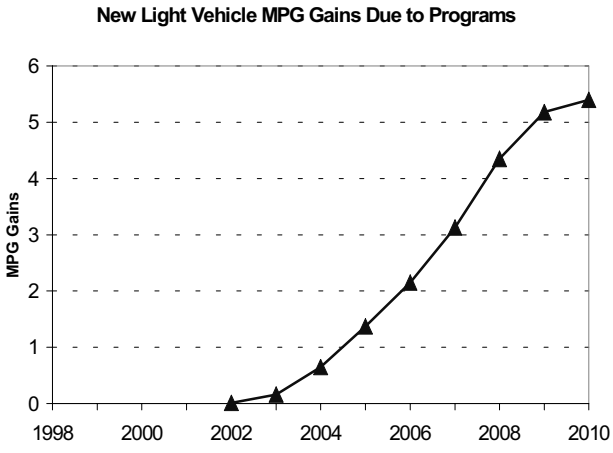
President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Unit**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs 270 Energy Supply				
Transportation Sector	Transportation Sector	EE	233	251
Solar and Renewable Energy		EE	39	55
Total			272	305

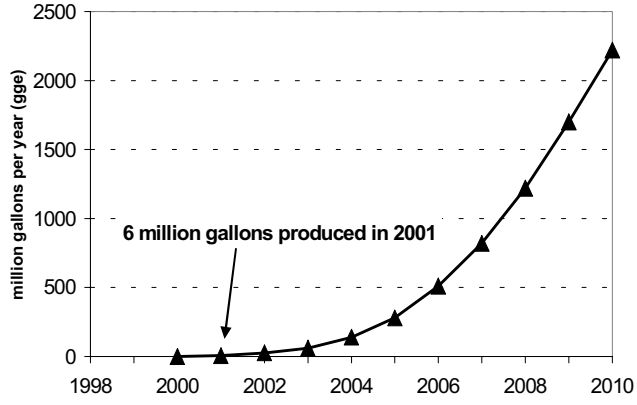
Introduction of the Decision Unit:
The mission of the Transportation sector is to support the development and use of advanced transportation vehicles and fuels which will reduce energy demand, particularly petroleum; reduce criteria pollutant and greenhouse gas emissions; and enable the United States transportation to sustain a strong competitive position in domestic and world markets.

Annual Performance Goals:

Discussion: The Department's goals for 2010 are to increase the fuel efficiency of new light vehicles by 5.4 mpg, to have 10 million vehicles on the road with light weight materials, and to increase cellulosic ethanol production to 2200 million gallons per year. In 2001, 220,000 vehicles will contain light weight materials, and 6 million gallons of cellulosic ethanol will be produced. Fuel efficiency gains will begin in 2002. These goals support DOE strategic objectives ER1 and ER2.







Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Expand the Clean Cities program to create continuous corridors of alternative transportation fuel availability in and between 10 major urban centers. (ER1-4)* (MET GOAL)	• *Demonstrate conversion of agricultural wastes to ethanol at a small commercial scale using a genetically engineered fermentative microorganism. (ER1-4)*	• *Conduct competitive solicitation and select at least one partner for demonstrating the conversion of cellulosic feedstock at a corn ethanol plant. (ER1)*
• *Support an industrial partner to complete site preparation and begin construction of industry-owned facility to demonstrate first-of-a-kind cellulosic biomass to ethanol technology from agricultural crop waste. (ER1-4)* (NEARLY MET GOAL)	• *Complete testing of baseline prototype, 50-volt high power lithium-ion modules for use in hybrid vehicles. (ER1-4)* • *Launch two projects that will lead to 100 percent penetration of alternative fuel vehicles in selected niche applications such as a local taxi fleet or the busses for a particular school. (ER1-4)*	• *Complete development of the 200-volt battery aimed at satisfying the PNGV high power energy storage requirements of hybrid vehicles. (ER1)* • *Support the annual acquisition on 12,000 alternative fuel vehicles in the Federal Fleet. (ER1)*
• *Build a single cylinder proof-of-concept diesel engine that delivers up to 55 percent efficiency. (ER1-4)* (NEARLY MET GOAL)		• *Complete test and evaluation of a fuel-flexible 50 KW integrated fuelcell power system. (ER3)*
• *By September 1999, in cooperation with industry and other federal agencies, develop a direct injection power system technical roadmap and a fuel cell power system technical roadmap to integrate fuels and lubricants research and development with development of engine and emissions treatment technologies. (ER3-1)* (MET GOAL)	• *Work with three domestic automakers to incorporate the most promising Partnership for a New Generation of Vehicles (PNGV) technologies in concept vehicles with up to three times average fuel economy of 1993 Taurus, Lumina and Concorde models. (ER3-1)*	

Means and Strategies for FY2001:

Fuel efficiency gains will be achieved through the introduction of lightweight materials and more efficient technologies. The use of lightweight materials such as aluminum sheets and composites will be made more economically attractive through DOE research and development efforts that reduce their costs. Vehicles with lightweight materials include electric, hybrid, and fuel cell vehicles. The penetration of these vehicles in the marketplace will be enhanced by DOE R&D that: reduces high power battery costs and battery calendar life for hybrid vehicles; decreases battery cost and increases battery specific energy for electric vehicles; and reduces the cost of fuel cell systems. The production of cellulosic ethanol will be enhanced by DOE R&D that increases cellulose enzyme development and reduces the cost of producing cellulosic ethanol.

Collaboration Activities:

The Office of Transportation Technologies collaborates with the Big Three automakers, ethanol producers, and universities in its R&D efforts. It also collaborates with the Department of Commerce, Department of Transportation, the Environmental Protection Agency and other federal agencies on the PNGV and other programs.

External Factors Affecting Performance:

Performance will be affected by the state of the economy, willingness of automakers to incorporate R&D advances into vehicles, and the continuation of the ethanol tax credit.

Validation and Verification:

Data Sources:	Department of Transportation/National Highway Safety Administration, Environmental Protection Agency, laboratory tests.
Baselines:	Fuel efficiency (mpg) gains are measured from 2001. Vehicles with lightweight materials and ethanol production are measured annually.
Frequency:	Annual.
Data Storage:	Office of Transportation Technologies (OTT) Quality Metrics report. Program analysis methodology document is prepared each year and put on the OTT website for comment and review.
Verification:	Review by Arthur D. Little. Presented to professionals for comment.

Planned Program Evaluation:

The National Research Council reviews the PNGV program each year and makes recommendations. Arthur D. Little reviews several programs each year.

DOE Decision Unit: Energy Information Administration

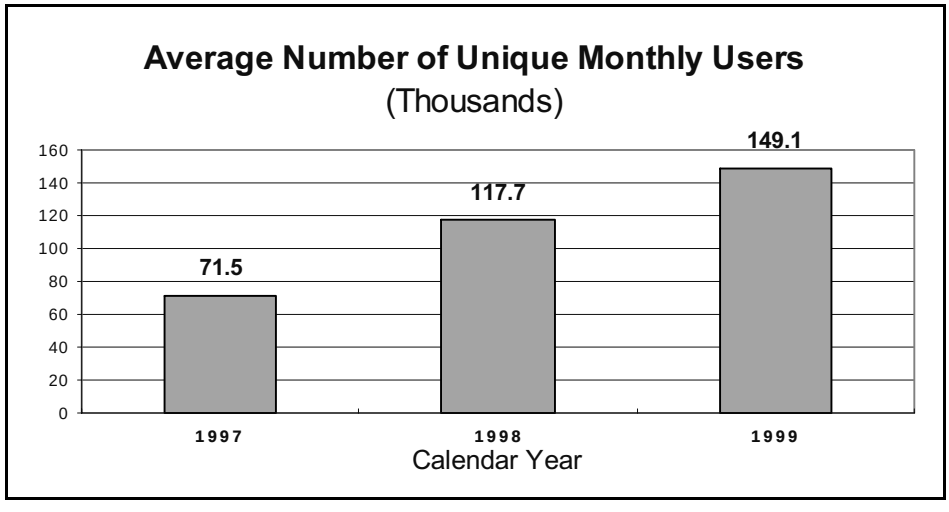
President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Energy Information Administration	-	EI	72	75

Introduction of the Decision Unit:

As an independent statistical/analytical agency, EIA has two principal roles. First, its primary responsibility is to conduct the functions required by statute. This responsibility consists of the development and maintenance of a comprehensive energy database and the publication of reports and analyses for a wide variety of customers in the public and private sectors. There are also specific reports which are required by law. Second, EIA responds to inquiries for energy information. The primary customers of EIA services are public policymakers in the Department of Energy and the Congress. Other customers include other agencies within the Executive branch and the independent agencies of the Federal Government, state and local governments, the energy industry, educational institutions, the news media, and the public.

Annual Performance Goals:

Discussion[2]**:** In 1997 EIA, in cooperation with EE, committed to increasing the average number of unique monthly users of it's web site by 20% annually, from a baseline of 70,000. In 1997, EIA average 71,500 unique monthly users of it's web site, slightly higher than the agreed upon baseline. In the following year, EIA averaged 117,700 unique monthly users, an increase of over 55% from the 1997 average. During the period January through June 1999, EIA is averaging over 149,000 unique monthly users of it's web site – an increase of over 20%.



[2] DOE Strategic Plan Objective 5-1 calls for "The average number of unique monthly users of the *Energy Resources Board Web Sites* will grow at least 20 percent per year through 2003 (from about 70,000/month in 1997)." [Emphasis Added] The information provided is for EIA only and does not include information from http://www.eren.doe.gov in order for the information to match the decision unit shown.

Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Publish domestic and international Annual Energy Outlooks forecasting energy supply and consumption through the year 2020. (ER5-1)* (MET GOAL) • *Achieve a growth rate of at least 20 percent per year in the average number of unique monthly users of the Energy Resources Board Web Site (from about 71,000 per month in 1997). (ER5-1)* (EXCEEDED GOAL)	• *Achieve a growth rate of at least 20 percent per year, through 2002, in the average number of unique monthly users of the Energy Resources Board Web Site (from about 71,000 per month in 1997). (ER5-1)* • *Publish domestic and international Annual Energy Outlooks forecasting energy supply and consumption through the year 2020. (ER5-1)*	• *Publish domestic and international Annual Energy Outlooks forecasting energy supply and consumption through the year 2020. (ER 4)* • *Achieve a growth rate of at least 20 percent per year in the average number of unique monthly users of the Energy Resources Board Web Site (from about 71,000 per month in 1997). (ER 4)*

Means and Strategies for FY2001:

In FY 2001, EIA's program will consist of data collection necessary to fulfill it's statutory requirement for the maintenance of a comprehensive energy database, the publication of reports and analyses for a wide variety of customers in the public and private sectors, the maintenance of the National Energy Modeling System for mid-term energy markets analysis and forecasting, the maintenance of the Short-Term Integrated Forecasting System for near-term energy market analysis and forecasting, customer forums and surveys to maintain an up-to-date product and service mix. EIA's strategy is to make it's broad mix of products and services available to it's customers through the continued use of publications and an expansion of electronic information dissemination via the EIA web site, ListServ, and CD-ROM.

Collaboration Activities:

EIA has a number of different collaborative activities underway with statistical agencies from other cabinet agencies. The most important collaboration is via the Interagency Council on Statistical Policy (ICSP), composed of the heads of the major statistical agencies and chaired by the Office of Management and Budget's Chief Statistician. The ICSP has supported a number of collaborative activities including: Fedstats-a website providing data from the major statistical agencies in a user-friendly environment; the NSF Digital Government initiative providing funds to researchers to interact with consortiums of statistical agencies on issues related to data dissemination, presentation and collection of large-scale databases on the web; the Joint Program in Survey Methodology (JPSM) -- to train college graduates in applied survey methodology, initiate a summer intern program and develop other certification alternatives. ICSP is backing the data sharing legislation that would allow the agencies to share data and sampling lists and still protect the confidentiality of respondents.

The longest standing collaboration is through our membership on the Federal Committee on Statistical Methodology, a consortium of government experts, appointed from within the statistical agencies for their technical abilities. The FCSM undertakes studies of methodological issues, sponsors conferences for sharing ideas, problems and research.

Still another example of collaboration is through the Interagency Confidentiality and Data Access Group, a special interest group of FCSM, that deals with the confidentiality, privacy and disclosure protection. The group collaborated and pooled funds to create a user interface to a census disclosure program. The program is now readily available on the web. Individual agencies have provided funds to support the development of an auditing program for tabular data that will also be made widely available on the web.

External Factors Affecting Performance:

EIA's data and analyses are anticipated to become more visible and critical over the next several years, because: (1) the debate on greenhouse gas emissions and global warming potential will cause the United States, as well

as other countries, to assess and understand the impact from major sources of emissions generated by human activity, and (2) with the restructuring and deregulation of the electric and natural gas industries, energy use and price data, especially at the consumers' level, are much more difficult to obtain from suppliers. This type of information will be especially useful to State governments, who are currently working with EIA and increasingly rely on EIA data to understand and effectively manage the current and emerging effects of energy industry restructuring's impact on consumers in their State.

Partly as a result of this increasing visibility and importance, it is critical to maintain the quality of the data from EIA's surveys. EIA will face an unprecedented challenge in maintaining the quality of it's data due to (1) the increasing amount of work needed to keep survey response rates high in the current cultural climate, with respondents increasingly more difficult to reach and more resistant to completing surveys; and (2) the need for expanded and more complex energy consumption and expenditures data collection procedures due to the more complex energy supply structure caused by natural gas and electric industry restructuring.

EIA's ability to provide data and information on the natural gas industry may be severely challenged by changes in the regulatory environment and corresponding industry restructuring. In addition, there are major segments of activity relating to prices and volumes for which no information is collected by EIA, such as the cost of underground storage, the cost of transportation, and price and physical transactions at market centers and market hubs. Since natural gas is usually the swing fuel in electric generation, information on these prices is essential in understanding the fuel decisions made by electric generator operators and the subsequent impact on electricity prices.

Validation and Verification:

Data Sources:	• EIA's Action Tracking System (ATS) • Web Site Server Logs
Baselines:	• Not Applicable • 1997
Frequency:	• Annual • Continuous
Data Storage:	• Microsoft Access Database • Initial storage on server, later displaced to CD-ROM
Verification:	• EIA's Web Site at: http://www.eia.doe.gov/oiaf/aeo.html • Software: Webtrends Inc., Webtrends 4.1

Planned Program Evaluation:

EIA is in the process of revising its strategic plan. During this process, an evaluation of EIA's operational environment was conducted by EIA's senior management. This evaluation has formed the basis of the strategic discussions now underway within EIA.

EIA annually conducts a customer satisfaction survey. The results of the customer survey are reviewed by EIA's senior management. Often specific survey questions about EIA's web site and electronic products are included in the customer survey. As a result of the customer survey, the regular monitoring of customer comments and concerns and the rapidly increasing use of EIA's web site, EIA has initiated a cognitive testing initiative of it's web site. EIA's strives to make the site accessible and usable to the most diverse range of customers, not just those with technical expertise and knowledge in energy and web surfing. To do this, users need to easily and quickly be able to find the data for which they are looking without being frustrated by jargon or a design that reflects EIA's organizational structure and/or publications. The cognitive testing initiative is testing to see what the specific design and organization problems users have in finding information in the EIA web site. The results of this testing will lead to a redesign of the site to make it easier to use for the most diverse range of users.

EIA's performance measures are briefed to senior management on a quarterly basis. Included in this briefing is number of unique monthly users of the EIA's web site and EIA's progress in meeting the established goal.

DOE Decision Unit: Power Marketing Administration

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Southeastern Power Administration	Operation & Maintenance, SEPA	SEPA	8	4
Southwestern Power Administration	Operation & Maintenance, SWPA	SWPA	29	28
Western Area Power Administration	Constr, Rehab, Oper & Maint.	WAPA	193	165
	CRDF, Boulder Canyon Project	WAPA	--	--
	Falcon-Amistad O&M	WAPA	1	3
Bonneville Power Administration	Bonneville Power Administration Fund	BPA	(see note 2)	
Total, PMAs			230	200
Colorado River Basins Fund		WAPA	(21)	(21)

Notes:
(1) The Colorado River Basins Fund and CRDF-Boulder Canyon Project are revolving funds and require no appropriations. The adjustments for revenues is included under Corporate Management.
(2) DOE's Budget of $18.9 Billion is the Discretionary Funding Request. BPA is an approximately $2 Billion operation and funds 90% of its activities through its own revenues. The remaining 10% of its operating budget is funded under the Department's Mandatory Funding and BPA is requesting $331 million for FY 2001 compared to $ 310 appropriated for FY 2000.

Description of the Program:

The Power Marketing Administrations' mission fulfills the requirements of the Regional Power Act of 1980, the Federal Columbia River Transmission Act of 1974, Section 5 of the Flood Control Act of 1944, Section 9 of the Reclamation Projects Act of 1939, the Bonneville Project Act of 1937, and various other acts, by marketing and reliably delivering cost-based Federal hydroelectric power, with preference given to publicly-owned electric utilities. This is accomplished by charging rates for Federal power that are as low as possible to consumers while recovering all operating costs and repaying the Federal investment in power facilities in a timely manner.

Bonneville Power Administration (Bonneville) is the Department of Energy's electric power marketing administration for the Federal Columbia River Power System (FCRPS). Bonneville provides electric power (about forty percent of the electricity consumed in the region), transmission (about three-fourths of the region's high voltage transmission capacity), and energy efficiency throughout the Pacific Northwest, a 300,000 square mile service area. Bonneville markets the electric power produced at 29 Federal hydroelectric multipurpose dams in the Pacific Northwest by the U.S. Army Corps of Engineers and the Bureau of Reclamation, and acquires non-Federal power to meet the needs of its customers utilities.

The PMAs' programs help achieve the Department's Energy Resources goal through the strategic objectives of reducing the vulnerability of the U.S. economy to disruptions in energy supplies, and ensuring that a competitive electricity generation industry is in place that can deliver adequate and affordable supplies with reduced environmental impact.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Ensure that each power system control area operated by a Power Marketing Administration (PMA) receives, for each month of the fiscal year, a control compliance rating of "pass" using the North American Electric Reliability Council performance standard. (ER1-6)* (MET GOAL)	• *Ensure that each power system control area operated by a Power Marketing Administration (PMA) receives, for each month of the fiscal year, a Control Compliance Rating of "Pass" using the North American Electric Reliability Council performance standard. (PMAs) (ER1-6)* • *Meet planned repayment of principal on power investment. (ER1-6)* • *Achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (ER1-6)*	• *Receive monthly a control compliance rating of "pass" using the North American Electric Reliability Council (NERC) performance standard. (ER1)* • *Meet planned repayment of principal on power investment. (ER1)* • *Achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (ER1)*

Means and Strategies for FY2001:

In order to achieve safety and reliability while staying competitive, the SEPA, SWPA and WAPA will accomplish their missions with 1,509 Federal employees, $179 million of budget authority, and use of power revenues and alternative financing authority. The PMAs accomplish their missions through five program activities: Operations and Maintenance, Construction and Rehabilitation, Purchased Power and Wheeling, Program Direction, and Utah Reclamation Mitigation and Conservation. (Not every PMA has every program activity.)

BPA will accomplish its mission and reliability, repayment and safety goals by effectively utilizing its 2,755 Federal employees, $331.2 million in estimated capital obligations, and use of self-financing revenues and authority through its two business lines: Power and Transmission.

To achieve the first goal of Reliability the PMAs will make system and maintenance improvements (e.g., basic infrastructure, monitoring, communications and control). They will also make improved to their analytic capabilities, work force skills and employee retention. To achieve the second goal the PMAs will utilize sound business practices and prudent risk management, and to achieve the third goal of Safety, the PMAs will continue to train their employees in occupational safety and health regulations policies and procedures and hold safety meetings at employee, supervisory and management levels in order to keep the safety culture strong. Accidents will be reviewed to ensure that lessons are learned and proper work protocol is in place.

Collaboration Activities:

The PMAs coordinate their operational activities with the U.S. Army Corps of Engineers, Bureau of Reclamation, NERC regional electric reliability councils, and their customers.

External Factors Affecting Performance:

Achieving and maintaining system reliability can be affected by weather, natural disasters, changes in NERC operating standards, new load patterns, deregulation of the electricity market, changing electric utility industry organizational structures and additions to other utilities' transmission systems interconnected to the Federal system.

Achieving and maintaining planned repayment can be affected by weather, power markets, natural disasters and other external costs and revenue factors.

Achieving and maintaining safety goals can be affected by retirement of existing employees, job market conditions, hiring authority in regard to hiring new employees, and the integration of new employees.

Validation and Verification(Goal 1-Reliability):

Data Sources:	Data on the measures of Area Control Error variability and magnitude (CPS1 and CPS2) are provided by NERC Control Area Operators each month.
Baselines:	Control Performance Rating = Pass if CPS1 $\geq$100% and CPS2 $\geq$ 90%
Frequency:	Monthly
Data Storage:	Control Area Operators
Verification:	Regional system coordinating council

Validation and Verification(Goal 2-Repayment):

Data Sources:	Chief Financial Officers at the PMAs track and report data.
Baselines:	Planned principal payments to the U.S. Department of Treasury.
Frequency:	Annually
Data Storage:	Chief Financial Officer
Verification:	External auditors

Validation and Verification(Goal 3-Safety):

Data Sources:	Injury and illness reports are prepared by the safety office. Inquiries are made with managers and employees.
Baselines:	Department of Labor statistics
Frequency:	Continuous
Data Storage:	PMA safety offices.
Verification:	Safety committees reviews reports

Planned Program Evaluation:

Annual performance goals are evaluated against NERC operating standards for the electric utility industry, repayment standards set forth in DOE Order RA 6120.2, and the Bureau of Labor Statistics industry safety rate.

NATIONAL SECURITY

The National Security Business Line supports and maintains a safe, secure, and reliable enduring stockpile without nuclear testing, safely dismantles and disposes of excess nuclear materials, provides technical leadership for national and global nonproliferation and nuclear safety activities, develops and supports nuclear reactor plans for naval propulsion and provides security for these functions.

NATIONAL SECURITY GOAL

Enhance the national security through the military application of nuclear technology and reduce global danger from weapons of mass destruction.

The funding requested for the National Security Business Line is within the 050 Atomic Energy Defense Activities account under "Weapons Activities" and "Other Defense Activities". The Weapons Activities account funds the Office of Defense Program in their efforts to maintain a safe, secure, and reliable nuclear weapons stockpile utilizing a science-based approach rather than nuclear weapons testing.

The Other Defense Activities budget account provides the funds for this business line, Environmental Quality, and Corporate Management. Within the National Security Business Line are the efforts to reduce the danger to U.S. National Security posed by weapons of mass destruction (WMD), specifically efforts to prevent the spread of WMD materials, technology, and expertise and the civilian side of the Naval Reactors program.

Efforts of a new, consolidated Security Office to ensure the security of DOE's efforts, Offices of Intelligence and Counterintelligence which address intelligence and counterintelligence matters, and minimize the adverse impacts of program downsizing on those who won the Cold War and the nearby communities are also funded by the 050 account.
The national security portion of environment, safety & health and contract hearings and appeals are funded by the 050 account but their performance is presented under Corporate Management.

The Department issued its plan to implement the National Nuclear Stewardship Administration on January 1, 2000. Implementation is required by March 1, 2000 and will include the offices of Defense Programs, Nonproliferation and National Security, Materials Disposition, and Naval Reactors. Although organization and management structure may change, performance goals and program evaluation in the plan should be unaffected.

"Five years ago, I directed the development of the Stockpile Stewardship Program to maintain our nuclear arsenal through science. The program is an essential safeguard to accompany the Comprehensive Test Ban Treaty. . . . Now, by combining past nuclear data with the high-tech simulations that computers like those here at Los Alamos make possible, we are keeping the arsenals safe, reliable, and effective."

President William Jefferson Clinton
Los Alamos National Laboratory

The National Security goal is supported by the following seven strategic objectives.

NS1: ***Maintain and refurbish nuclear weapons in accordance with directed schedules to sustain confidence in their safety and reliability indefinitely, under the nuclear testing moratorium and arms reduction treaties.***

NS2: ***Achieve a robust and vital scientific, engineering and manufacturing capability to enable the future certification of the enduring stockpile and the manufacture of nuclear weapon components under the nuclear testing moratorium .***

NS3: ***Ensure the vitality and readiness of DOE's nuclear security enterprise.***

NS4: ***Provide policy leadership, technology development and program implementation to prevent the proliferation of WMD, detect WMD proliferation, monitor WMD treaties and agreements, improve international nuclear safety, security and accounting of weapons-usable nuclear materials, and counter WMD terrorism.***

NS5: ***Reduce inventories of U.S. and Russian surplus weapons fissile materials in a transparent and irreversible manner.***

NS6: ***Provide the U.S. Navy with safe, militarily-effective nuclear propulsion plants, and ensure their continued safe and reliable operation.***

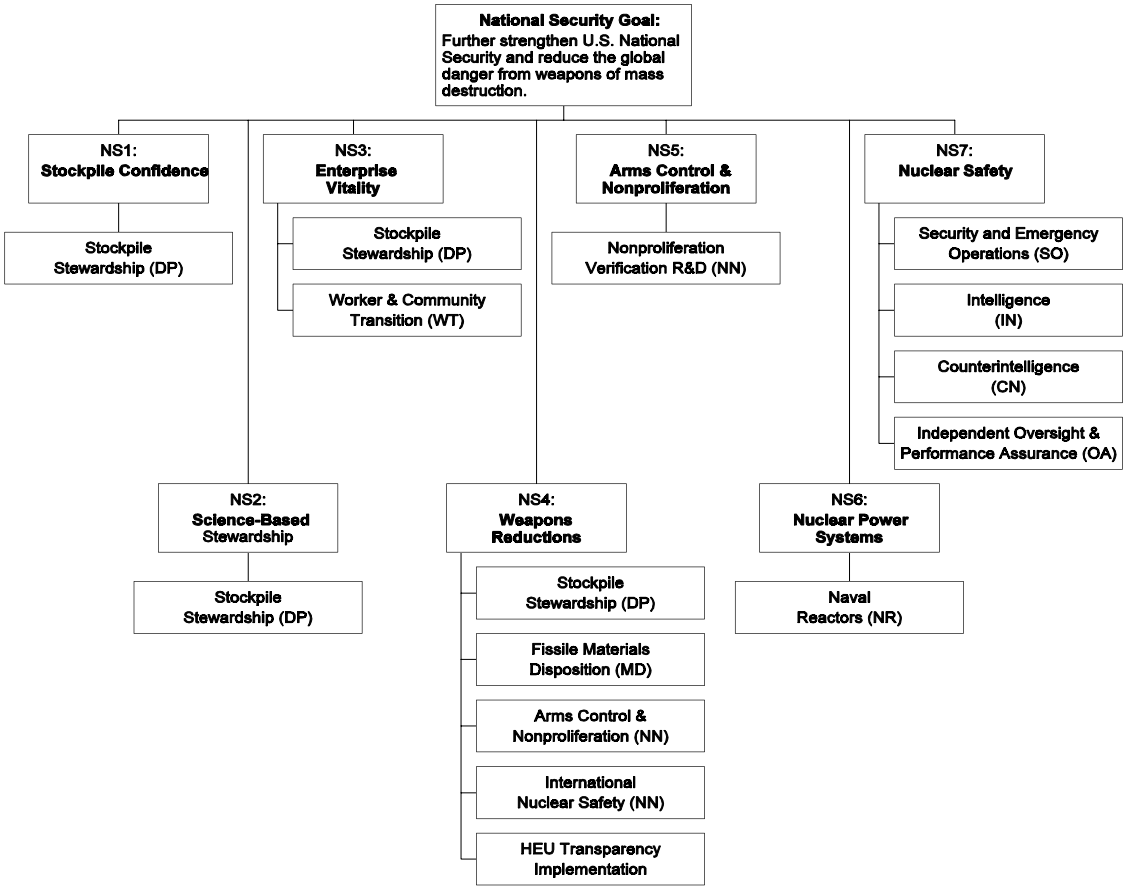
NS7: ***Ensure the security of the Department's nuclear materials, facilities, and information assets.***

The following table maps the Presidential Budget's Program and Financing (P&F) accounts and program activities to the Department of Energy's offices and decision units. The alignment includes aggregation, disaggregation, and consolidation. The chart that follows this one shows how the decision units support the Department's Strategic Plan objectives for this business line.

Presidential Budget Program and Financing (P&F) Accounts and Program Activities	FY 2001 Budget Request ($M)	DOE Office	DOE Decision Units
050 Atomic Energy Defense Activities			
National Nuclear Security Administration(NNSA)			
Weapons Activities			
Stewardship O&M	3,840	DP	Defense Programs
Secure Transportation Asset	116	DP	
Program Direction	224	DP	
Construction	414	DP	
Subtotal Weapons Activities	4,594	DP	Subtotal Defense Programs
Other Defense Activities			
Nonproliferation and national security	273	NN	Arms Control & Nonproliferation
	233	NN	Nonproliferation R&D
	20	NN	International Nuclear Safety
	15	NN	HEU Transparency
	42	NN	Program Direction
Subtotal for Nonproliferation and national security	683	NN	Subtotal Nonproliferation and national security
Fissile materials disposition	223	MD	Fissile Materials Disposition
Naval reactors	678	NE(NR)	Naval Reactors
Total for NNSA	**6,178**		
Other Atomic Energy Defense Activities			
Intelligence	38	IN	Intelligence and Counterintelligence
Counterintelligence	45	CN	
Worker and Community Transition	25	WT	Worker and Community Transition
Security Office	320	SO	Security and Emergency Operations Office
Oversight Activities	15	OA	Independent Oversight and Performance Assurance
Total for other Atomic Energy Defense Activities	**443**		
TOTAL - National Security	**6,621**		

The program direction for major programs, such as for Defense Programs, is its own Program Activity in the President's Budget Program and Financing (P&F) schedule. These funds support the management of the program and salaries and benefits of the Federal staff. Therefore, the Program Direction budget lines do not have performance goals separate from the performance goals of the Defense Programs.

The National Security goal is supported by seven strategic objectives. Each strategic objective is being pursued through long-term strategies. The Decision Units fund work on those long-term strategies and the annual performance goals are discussed with the Decision Units on the following pages. DOE Decision Units provide a means to link program resources at lower levels of aggregation to performance goals. While this approach allows us to clearly link annual performance with annual budget resources, we are also keeping our strategic plan goals and objectives in focus by annotating each performance goal with the strategic objective it supports.



DOE Decision Unit: Defense Programs

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
053, Atomic Energy Defense Activities				
Stockpile Stewardship	-	DP	3,559	3,840
Secure Transportation Asset		DP	91	116
Program Direction		DP	204	224
Construction		DP	530	414
Adjustments			(63)	
Total			4,321	4,594

Introduction of the Decision Unit:

The DOE Stockpile Stewardship Program maintains confidence in the safety, reliability and performance of the nuclear weapons in the nation's stockpile without underground nuclear testing. The program develops and maintains the world class scientific, engineering, manufacturing and experimental capabilities needed to achieve weapons stockpile certification for the long term. It ensures the vitality of the DOE national security enterprise, including the physical and intellectual infrastructure for the three defense national laboratories, the Nevada Test Site, and the Kansas City, Pantex and Y-12 production plants and Savannah River Tritium facilities.

Achieving confidence in our ability to certify without underground nuclear testing that the nuclear weapon stockpile remains safe and reliable for the long term requires capable and experienced people working on significant scientific and engineering challenges to develop and advance specialized knowledge, tools and techniques. Success requires appropriate integration and balance of these three elements in meeting current and future mission: carrying out the directed stockpile workload as well as maintaining the program's infrastructure and developing capabilities needed in the future. To implement the FY 2000 legislation establishing the National Nuclear Security Administration (NNSA), Defense Programs is proposing a major change in program management strategy, and supporting planning, budgeting and organizational structures.

In the past year, Defense Programs reintegrated under a single manager the research and development programs and the Accelerated Strategic Computing Initiative, one of many recommendations from a high level Task Force looking at integration issues across DP. We have undertaken intensive joint efforts with M&O contractors at all levels of the program to identify and exploit opportunities for integration, and have proposed to move key missions and capabilities within the laboratory complex to create centers of excellence while eliminating non-essential duplication, and to better balance the Stockpile Life Extension Program workload. However, much work remains to transfer specific programs, projects, and assets to the new NNSA, and the Administration will continue to work on this during FY 2000.

Beginning in FY 1999, we have articulated an integrated approach to Stockpile Stewardship program management, built upon three elements: Directed Stockpile Work, Campaigns, and Readiness in Technical Base and Facilities. We plan to update the DP's objectives in the DOE Strategic Plan to reflect this change, and the following FY 2001 Performance Goals are the first attempt to realign these as well.

Annual Performance Goals:

Note: Due to the number of performance goals in this decision unit, the performance goals are discussed in three sections organized by the strategic plan objectives that the work supports.

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
Stockpile Confidence (NS1)		
• *Report annually to the President that there is no need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. (NS1-1)* (MET GOAL)	• *Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapons stockpile. (NS1-1)*	• *Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile. (NS1)*
• *Meeting all annual weapons maintenance and refurbishment schedules developed jointly by the DOE and DoD. (NS1-1)* (NEARLY MET GOAL)	• *Meet all annual weapons alteration and modification schedules developed jointly by DOE and DoD. (NS1-1)*	• *Meet all annual weapons maintenance and refurbishment schedules developed jointly by the DOE and DoD. (NS1)*
• *Continued development of dual path options and selected in December 1998 a primary tritium production technology. (NS1-4*) (MET GOAL)	• *Complete an internal comprehensive review of the Stockpile Stewardship Program. (NS1-1)* • *Begin implementation of the selected technology to provide a reliable source of tritium. (NS1-4)*	• *Meet annual schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile. (NS1)*
Weapons Reductions (NS4)		
• *Adhere to the schedule for the safe and secure dismantlement of approximately 275 weapons that have been removed from the U.S. nuclear weapon stockpile. (NS4-1)* (BELOW EXPECTATION: 207 weapons were dismantled and the difference was due to technical difficulties.)	• *Adhere to approved schedules for the safe and secure dismantlement of nuclear warheads that have been removed from the U.S. nuclear weapon stockpile. (NS4-1)*	Dismantlement schedule will be complete enough to be incorporated under objective NS1.

Means and Strategies for FY2001:

In FY 2001, the Department will conduct a wide range of tests and activities to assess the continuing safety and reliability of the nation's nuclear weapon stockpile. Overall technical reviews by the weapons laboratories of stockpile weapons will encompass laboratory and flight tests of materials and components, surveillance tests, and hydrodynamic testing of components. Calculations and computer simulations of weapons will be used in these assessments. Weapon analyses will utilize data archived from past underground nuclear tests. Working through the weapon production plants and the laboratories, DOE will make deliveries of limited life and other weapon components for nuclear weapon stockpile management and refurbishment according to schedules developed jointly by the DOE and DoD. Dismantlement activities are also carried out in support of this objective. Activities will be conducted with the Department of Defense, ranging from training in nuclear weapon field maintenance to partnerships in research supporting non-nuclear munitions.

Collaboration Activities:

Some activities will be conducted with the Department of Defense, ranging from training in nuclear weapon field maintenance to partnerships in research supporting non-nuclear munitions. Stockpile Stewardship activities are synergistic with Work for Others activities sponsored principally by the DoD.

External Factors Affecting Performance:

Implementation of the National Nuclear Security Administration (NNSA) will be undertaken in FY 2000. Organization and management structures may change; however, performance goals and program evaluation should be essentially unaffected by the change.

Validation and Verification:

Data Sources:	Production and Planning Directive and quarterly reviews
Baselines:	Established annually
Frequency:	Quarterly
Data Storage:	n/a
Verification:	DoD

Planned Program Evaluation:

The Stockpile Management Integration Council meets quarterly to assess progress against major performance objectives. An outside organization of M&O contractors, the Defense Programs Advisory Group (DPAG), is also available to evaluate program performance if requested by the Deputy Assistant Secretary (DAS).

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
Science Based Stewardship (NS2)		
• *Demonstrated a 3 trillion operations per second computer system. (NS2-1)* (EXCEEDED GOAL)	• *Demonstrate a computer code capable of performing a three-dimensional analysis of the dynamic behavior of a nuclear weapon primary, including a prediction of the total explosive yield, on an ASCI computer system. (NS2-1)*	• *Provide scientific understanding of the nuclear package of weapon systems to sustain our ability to annually certify the nuclear weapon stockpile without underground nuclear testing. (NS2)*
• *Continue construction of the National Ignition Facility (NIF) according to the Project Execution Plan schedules. (NS2-2)* (BELOW EXPECTATION: A new project baseline is being developed.)	• *Continue construction of the National Ignition Facility (NIF) and rebaseline future construction, total costs, and schedules by June 2000. (NS2-2/FMFIA)* • *Obtain approval of Defense related project management campaign implementation plan. (FMFIA)*	• *Develop the simulation and modeling tools and capabilities to implement virtual testing of nuclear weapons and components in the absence of underground nuclear testing. (NS2)*
• *Conduct two to three subcritical experiments at the Nevada Test Site to provide valuable scientific information about the behavior of nuclear materials during the implosion phase of a nuclear weapon. (NS2-3)* (MET GOAL)	• *Conduct further subsets of the subcritical experiment begun in FY 1999 (Oboe) and one additional subcritical experiment at the Nevada Test Site to provide data on the behavior of nuclear materials during the implosion phase of a nuclear weapon. (NS2-3)*	• *Provide specific tools, capabilities and components necessary to sustain the viability of the manufacturing base within the nuclear weapons complex, including a reliable source of tritium by FY 2006. (NS2)*

Means and Strategies for FY2001:

In FY 2001, the Department will continue with the "campaigns" approach for activities that address critical capabilities needed to achieve weapons stockpile certification. The campaigns are focused efforts with specific end points, planned and executed by integrated teams from the laboratories, Nevada Test Site (NTS) and plants. Campaigns include: Primary Certification, Materials Properties, Radiography, Secondary Certification, ICF (inertial confinement fusion) Ignition, Certification in Hostile Environments, Defense Applications and Modeling, Weapon System Engineering, Enhanced Surety, Enhanced Surveillance, Advanced Design and Production Technologies (ADAPT), Pit Manufacturing Readiness, Secondary Readiness, HE/Assembly Readiness, Nonnuclear Readiness, Materials Readiness, and Tritium Readiness. It is possible that some of these campaigns will be merged and refocused as DP continues to receive comments on the proposed budget structure from the DOE, OMB and the Congress. Activities to implement the decision on the use of commercial light water technology to provide a new tritium source are now viewed as a campaign and are carried out in support of this objective.

Collaboration Activities:

There are a small number of collaborations with universities and colleges , mainly associated with the strategic computing activities and the inertial confinement fusion research program.

External Factors Affecting Performance:

Implementation of the National Nuclear Security Administration (NNSA) will be undertaken in FY 2000. Organization and management structures may change; however, performance goals and program evaluation should be essentially unaffected by the change.

Validation and Verification:

Data Sources:	Campaign Implementation Plans and Campaign Program Plans
Baselines:	Established annually in approved plans.
Frequency:	Quarterly review by DP program managers
Data Storage:	n/a
Verification:	Peer and external reviews.

Planned Program Evaluation:

Federal campaign managers will use the each plan (above) as a program management tool to manage, monitor and evaluate progress toward milestones. Periodic status reports will be provided to all campaign managers and quarterly reviews are planned.

Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
Enterprise Vitality (NS3) • *Ensure that all facilities required for successful achievement of the Stockpile Stewardship Program remain operational. (NS3-1)* (BELOW EXPECTATION: Enriched Uranium Operations at the Y-12 Plan were behind schedule.) • *Meet the established schedules for downsizing and modernizing our production facilities. (NS3-1)* (NEARLY MET GOAL) • *Ensure that the capability to resume underground nuclear testing is maintained in accordance with Presidential Decision Directive and safeguard C of the CTBT. (NS3-5)* (MET GOAL) • *Maintain robust emergency response assets in accordance with Presidential Decision Directive 39 and Executive Order 12656, and federal Emergency Plans. (NS3-5)* (MET GOAL)	• *Ensure that all facilities required for successful achievement of the Stockpile Stewardship Program remain operational. (NS3-1)* • *Meet the established schedules for downsizing and modernizing our production facilities. (NS3-1)* • *Ensure that the capability to resume underground nuclear testing is maintained in accordance with Presidential Decision Directive through a combined experimental and test readiness program. (NS3-5)*	• *Ensure the physical infrastructure and facilities are operational, safe, secure, compliant and that a defined state of readiness is sustained at all needed facilities. (NS3)* • *Maintain the DOE Secure Transportation Asset for safe, secure transport of nuclear weapons, special nuclear materials, and weapon components. (NS3)* • *Ensure that the capability to resume underground nuclear testing is maintained in accordance with Presidential Decision Directive through a combined experimental and test readiness program. (NS3)* • *Ensure the availability of a workforce with the critical skill necessary to meet long-term requirements. (NS3)*

Means and Strategies for FY2001:
In FY 2001, DOE will continue to oversee and maintain the infrastructure and plant at government-owned, contractor operated weapons laboratories and plants according to applicable statutes, laws, agreements and standards. DP is developing detailed facility operation plans to assure that specific requirements for readiness are maintained. DOE will also maintain appropriate infrastructure, personnel knowledge and exercised skills necessary to conduct an underground nuclear test within 2-3 years. Sites have been charged with the responsibility to develop and implement workforce plans in light of the recommendations of the Chiles Commission. DOE will provide for enhancements to the DOE Secure Transportation Asset to address vulnerability issues raised in reviews in FY 1999. Finally, DOE will identify the workforce skills necessary to meet long-term stockpile stewardship requirements and will develop staffing plans to attract and keep staffing requirements.

Collaboration Activities:

There are a small number of collaborations with universities and colleges , mainly associated with the education program. Also, a limited number of technology partnership efforts with industry may be continued from FY 2000.

External Factors Affecting Performance:

Implementation of the National Nuclear Security Administration (NNSA) will be undertaken in FY 2000. Organization and management structures may change; however, performance goals and program evaluation should be essentially unaffected by the change.

The DOE weapons complex is a government owned-contractor operated enterprise. DP works proactively with its contractors, external regulators, and host communities to assure that facilities and operations are in compliance with all applicable statutes and agreements to minimize unscheduled disruption to program activities that could affect performance.

Validation and Verification:

Data Sources:	RTBF Implementation Plans
Baselines:	Established in the plans.
Frequency:	Quarterly review by DP program managers

Planned Program Evaluation:

Each site will have a detailed Readiness in Technical Base and Facilities (RTBF) Implementation Plan which will include detailed data sheets on various activities. Federal RTBF managers will provide status reports and will host quarterly reviews of the program.

DOE Decision Unit: Arms Control and Nonproliferation

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Atomic Energy Other Defense Activities				
Nonproliferation & National Security	-	NN	263	273

Introduction of the Decision Unit:

Arms Control and Nonproliferation is the focal point within the Department for activities which support the President's arms control and nonproliferation policies, goals and objectives, as well as statutorily-mandated activities. The major functional areas of the program include: Policy and Analysis; Reduced Enrichment Research and Test Reactor (RERTR); International Safeguards; Export Control Operations; Treaties and Agreements; International Security; and International Materials Protection, Control, and Accounting (MPC&A). The program provides leadership and representation for the Department in the international arms control and nonproliferation community and the U.S. Government's interagency process, as well as for the U.S. Government in national and international arms control and nonproliferation negotiations, agreements and interactions. The Department provides policy and technical leadership for national and global nonproliferation efforts to reduce the continuing and new global nuclear dangers.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Support U.S.-lead negotiations on the Fissile Material Cut-off Treaty at the United Nations multilateral conference on disarmament in Geneva and U.S.-led Biological and Weapons Convention negotiations in Geneva. (NS5-1)* (MET GOAL)	• *Support U.S. Government lead negotiations on the Fissile Material Cut-off Treaty and for the Biological Weapons Convention negotiations. (NS5-1)*	• *Support negotiations on the Fissile Material Cut-off Treaty and for the Biological Weapons Convention negotiations. Provide analytical and technical support in preparation for implementation of agreement and treaties. (NS5)*
• *Evaluate the impacts of warhead dismantlement and transparency initiatives. (NS4-1)* (MET GOAL)	(Note: Dismantlements are expected to be completed in FY 2000.)	
	• *Support continuing efforts to gain ratification of the Comprehensive Test Ban Treaty and steps to facilitate its subsequent implementation, including addressing U.S. responsibilities in the Prep Com -- developing procedures for OSI both internationally and at DOE facilities. (NS5-1)*	• *Support continuing efforts to gain ratification of the Comprehensive Test Ban Treaty and steps to facilitate its subsequent implementation, including addressing U.S. responsibilities in the Preparation Committee -- developing procedures for on site inspections both internationally and at DOE facilities. (NS5)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
	• *Lead, via the Joint Chairmanship, the interagency task force on warhead and fissile material to implement a START III concept for warhead elimination by July 2000. (NS5-1)* • *Provide equipment, technologies and expertise to the IAEA and the United Nations Special Commission (UNSCOM) to support their nuclear inspections in North Korea and Iraq. (NS5-1)*	• *Lead, via the Joint Chairmanship, the interagency task force on warhead and fissile material to implement a START III concept for warhead elimination. (NS5)* • *Provide equipment, technologies and expertise to the IAEA to continue implementation of nuclear verification and monitoring in Iraq. (NS5)*
[Background: Complete spent fuel canning at the DPRK in accordance with the Agreed Framework. relates to NS5-2, but was not a goal in the Performance Agreement]	• *Implement a nuclear spent fuel maintenance plan by continuing technical dialogue with the Democratic Peoples Republic of North Korea (DPRK). (NS5-1)*	• *Provide long-term canister monitoring and maintenance and support IAEA activities at DPRK facility, conduct long-term maintenance training sessions, and conduct health physics tests. (NS5)*
• *Continue to improve and integrate technology practices, facilities and training for material protection, control, and accounting for 650 metric tons of weapons-useable material at 53 locations (NS5-2)* (EXCEEDED GOAL)	• *Continue to install MPC&A upgrades in Russia, for defense-related sites, civilian sites, Russian Navy projects, and the transportation sector. (NS5-2)* • *Begin consolidation of weapons-usable material into fewer buildings and fewer sites, and eliminate 200 kilograms of weapons-grade nuclear material by converting it to non-weapons grade form thereby improving security and reducing overall cost. (NS5-2)*	• *Establish a site operation and sustainability initiative to ensure continued security of weapons-usable material at sites where MPC&A upgrades are complete. (NS5)*
• *Further the Nuclear Cities Initiative promoting cooperation with the closed cities in the Russian nuclear weapons complex to improve the prospects for defense conversion and employment of former weapons scientists. (NS5-2)* (EXCEEDED GOAL)	• *Further the Nuclear Cities Initiative promoting cooperation with the closed cities in the Russian nuclear weapons complex to improve the prospects for defense conversion and employment of former weapons scientists. (NS5-2)* • *Equip 2-3 Russian sites and conduct 2 joint training sessions under a Second Line of Defense Initiative. (NS5-2)*	

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
	• *Cooperate with Russian Federation Customs to block nuclear smuggling at Russian border posts with nuclear detection equipment. (NS5-2)*	
	• *Engage approximately 2,000 scientists, engineers and technicians at nuclear NIS institutes, and approximately 800 scientists, engineers and technicians at NIS chemical/ biological institutes in 50 projects to provide long-term commercial employment. (NS5-2)*	• *Engage approximately 2,000 scientists, engineers and technicians at nuclear NIS institutes, and approximately 800 scientists, engineers and technicians at NIS chemical/ biological institutes over 40 projects to provide long-term commercial employment. (NS5)*
	• *Ensure safe, secure storage of spent nuclear fuel at the BN-350 Reactor in Aktau, Kazakhstan. Complete canning of the fuel on-site, including the existing core. Begin work on the long-term disposition program. (NS5-2)*	• *Ensure safe, secure storage of spent nuclear fuel at the BN-350 Reactor in Aktau, Kazakhstan. Continue construction of storage facility. Begin transport of canisters to long-term storage facility under IAEA safeguards. (NS5)*
	• *Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of Mission Critical Staffing. (FMFIA)*	• *Continue export control initiatives to develop the necessary infrastructure to ensure control over nuclear and nuclear-related dual-use equipment, material, and technology in Russia and the Newly Independent States. (NS5)*
		• *Plan and host the Nuclear Suppliers Group (NSG) Plenary. (NS5)*

Means and Strategies for FY 2001:

In FY 2001 the Department, conduct eight weeks of negotiations, consultation anticipated to last several weeks, and maintain technical experts to support deliberations, studies, and domestic and international exercises and/or conduct multilateral verification workshops. Conduct three site visits to assess monitoring impacts and requirements under a Fissile Material Cut-off Treaty, continue international consultations on verification of former military plants in the nuclear weapons states, and conduct mock inspection. Conduct multi-agency cooperative assessment, on-site inspection simulations, and complex data surveys to support the compilation of treaty and agreement-mandated declaration submissions.

In FY 2001, the Department will work with the Russian Federation to negotiate a treaty and other legally binding agreements which allows confirmation that Russian nuclear weapons are being dismantled and that excess fissile materials removed from dismantled Russian nuclear weapons are not reused in the production of new nuclear weapons. The core elements of this program include the negotiation of a START III by the Russian Duma, which will actually mandate the elimination of quantities of nuclear weapons in addition

to further reductions in nuclear delivery systems. Through Lab-to-Lab WDT efforts, maintain a technical dialog with Russian scientific and technical organizations.

Develop and implement an initiative to ensure that the DOE complex meets all export control statutory requirements. Provide a leadership role in the multilateral arena and plan and host the 2001 NSG Plenary.

DOE will focus on cost-share project involving U.S. industry, in order to sharpen its focus on facilitating commercial outcomes in initiatives for proliferation prevention. The Nuclear Cities Initiative will continue to create jobs based on new opportunities and sectors (e.g., environmental projects), viability evaluations, and business potential.

Collaboration Activities:

DOE coordinates its negotiation and shutdown activities with the Departments of State and Defense, and the National Security Council. In export control area, DOE participates in all interagency fora in support of mandated licensing policy responsibilities.

External Factors Affecting Performance:

Unwillingness of threshold states to engage in negotiations; therefore, the lack of negotiated mandates for the Conference on Disarmament. Political uncertainties in the former Soviet Union and the possible ratification of START III by the Duma.

Validation and Verification:

Data Sources:	Project management reviews and reports.
Baselines:	Technical baselines are specified in a project plan.
Frequency:	Quarterly technical and financial reports, and annual project life cycle plans submitted.
Data Storage:	The headquarters, field, and laboratory/contractor activity managing the project maintain data on technical progress. DOE's International Policy and Analysis Division maintains a project life cycle summary updated annually, a detailed quarterly technical and financial progress reports.
Verification:	Analytical, and technical activities have specific reporting periods. DOE supplements these with broader program reviews.

Planned Program Evaluation:

DOE uses a process of extensive internal and external reviews to evaluate progress against established plans. These reviews provide an opportunity to verify and validate the performance data that the implementing organizations have provided. Detailed, quarterly progress reports are received from the U.S. Laboratories for this program to ensure technical progress, costs and schedules are being met.

DOE Program Decision Unit: Nonproliferation and Verification R&D

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Atomic Energy Defense Activities,				
Nonproliferation and National Security	-	NN	225	233

Description of the Program:

The Department of Energy (DOE) Nonproliferation and Verification Research and Development (R&D) Program is devoted to conducting applied research, development, testing, and evaluation of science and technology for strengthening the U.S. response to National Security threats and threats to world peace posed by the proliferation of nuclear, chemical, and biological weapons and special nuclear material diversion. Activities are focused on the development, design, prototype construction and production of operational sensor systems needed for proliferation detection, deterrence, nuclear test monitoring, and chemical and biological nonproliferation.

Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
Deterring Proliferation ● *Complete development and delivery to customers of two new counter-nuclear-smuggling detection technologies, one portable/hand-held and the other for wide area tracking and interdiction. (NS5-3*) (MET GOAL)	● *Develop improved technologies and systems for early detection, identification, and response to weapons of mass destruction proliferation and illicit materials trafficking. (NS5-3)*	● *Develop improved analytical laboratory and field methods to aid law enforcement forensic investigations. (NS5)* ● *Develop technology to confirm and monitor the non-reversible dismantlement of nuclear weapons and removal of special nuclear materials from nuclear weapons cycle while protecting sensitive information. (NS5)*
Proliferation Detection ● *Demonstrate, through airborne field tests, two new technologies that use chemical detection methods to remotely characterize weapons of mass destruction proliferation activities. (NS5-3)* (MET GOAL)	● *Launch the Multispectral Thermal Imager (MTI) small satellite to demonstrate temperature measurement from space for the passive detection and characterization of proliferant activities. (NS5-3)*	● *Demonstrate and evaluate the proliferation detection capabilities of the Multispectral Thermal Imager (MTI) small satellite launched in FY 2000. (NS5)* ● *Advance new techniques for proliferation detection from conceptual/lab bench level to field test/prototype. (NS5)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
Nuclear Explosion Monitoring • *Deliver to the U.S. National Data Center for the Comprehensive Nuclear-Test-Ban Treaty the first half (Release 3) of an operational knowledge base that can be accessed by automated processing systems and human analysts to provide monitoring and verification confidence. (NS5-3)* (MET GOAL)	• *Deliver three improved sensor systems for treaty monitoring to the U.S. Air Force. (NS5-3)* • *Deliver to the U.S. National Data Center 60 percent of an operational knowledge base that can be accessed by automated processing systems and human analysts to provide monitoring and verification confidence. (NS5-3)*	• *Produce and deliver three Global Positioning System (GPS) satellite nuclear explosion detection sensor systems per year to provide uninterrupted capability for continuous worldwide monitoring for nuclear explosions occurring in the atmosphere or space. (NS5)* • *Deliver to the U.S. National Data Center 70 percent of an operational knowledge base that can be accessed by automated processing systems and human analysts to provide monitoring and verification confidence. (NS5)*
Chemical and Biological Nonproliferation	• *Test first generation prototype hand-held detector for enhanced detection of chemical agents. (NS5-3)* • *Complete architecture development to protect a "special event" from biological attacks. (NS5-3)*	• *Demonstrate systems to protect key infrastructure and special events from chemical and biological attacks, and demonstrate chemical and biological detectors. (NS5)*

Means and Strategies for FY2001:

The program goal is to enhance U.S. National Security through needs-driven research and development. The emphasis is on developing the requisite fundamental science and technology to detect and prevent nuclear proliferation, to meet U.S. treaty monitoring goals, and to develop and demonstrate chemical and biological detection and related technologies to enable us to better prepare for and respond to chemical and biological attacks.

Collaboration Activities:

The DOE will continue to leverage its considerable nuclear nonproliferation R&D base to address important objectives including: nuclear warhead dismantlement initiatives; countering nuclear smuggling and terrorism; applying DOE's resident chemical and biological science expertise to support U.S. preparation for and response to the use of chemical and biological agents; and supporting Law Enforcement agencies. All activities also support the timely transfer of tested prototype systems to other U.S. Government agency users.

External Factors Affecting Performance:

The pace and nature of treaties and agreements related to the proliferation of weapons of mass destruction will influence level and kinds of technologies that DOE will develop for national security.

Validation and Verification:

Data Sources:	Internal and external program reviews, national laboratories reviews, interagency liaison reviews and government direction.
Baselines:	Stated in program plans and project life cycle plans.
Frequency:	Immediate headquarters response to unexpected events, otherwise in quarterly reports or as specified in program plans.
Data Storage:	NN-20 maintains an automated Project Information Management System (PMIS) which contains full life cycle plans including statements of work, milestones, deliverables and quarterly reports. NN-20's automated financial plan is extracted from the PMIS.
Verification:	Office program and project plans provide direction for reporting. Broader reviews are instituted by Departmental or government mandate.

Planned Program Evaluation:

Office management, program managers, and laboratory counterparts continually review project activities. This, along with Departmental and peer reviews ensure that appropriate performance measures and applied and carried out.

DOE Program Decision Unit: International Nuclear Safety

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Atomic Energy				
Nonproliferation and National Security	-	NN	15	20

Description of Program:

The mission of the International Nuclear Safety and Cooperation program is to support national security by activities in international safety and cooperation. The goal is to reduce the national security and environmental risks of nuclear power plants and nuclear facilities worldwide, especially Soviet-designed reactors, and to assist the host countries to implement self-sustaining nuclear safety improvement programs capable of reaching internationally accepted safety practices. Project activities address significant safety issues primarily in Ukraine, Russia, Armenia, and Kazakhstan,. The activity improves nuclear safety by participation in international organizations and by development of international nuclear safety centers.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Complete the development and implementation of an effective reactor plant operator training program at key plants based on the Systematic Approach to Training methodology used in the United States and provide and incorporate plant simulators into the operator training programs. (NS7-1)* (MET GOAL)	• *Complete a full-scope simulator for Kola Unit 4 and Balakovo Unit 4 in Russia, and for South Ukraine Unit 3 in Ukraine. (NS7-1)*	• *Complete full-scope simulator for Ukraine's Rivne nuclear plant unit 3 and South Ukraine nuclear plant unit 1, and for Russia's Kalinin nuclear plant unit 1. (NS4)*
• *Complete the installation of Safety Parameter Display Systems to improve operator response to emergencies at Leningrad Unit 4 and Novororonezh Unit 4. (NS7-1)* (MET GOAL)	• *Complete the installation of Safety Parameter Display Systems to improve operator response to emergencies in Russia and at South Ukraine Unit 2, Rivne Unit 3, and Zaporizhzhya in Ukraine. (NS7-1)*	• *Complete safety parameter display systems for Ukraine's South Ukraine nuclear plant unit 3, and Zaporizhzhya nuclear plant units 2 and 4. (NS4)* • *Complete nuclear service water system at Armenia nuclear plant. (NS4)*
• *Provide preliminary safety assessment results to determine near-term safety improvements. (NS7-1)* (MET GOAL)	• *Complete a probabilistic risk assessment for Kola Unit 4 in Russia and for South Ukraine and Rivne plants in Ukraine. (NS7-1)*	• *Complete in-depth safety assessment at Ukraine's South Ukraine and Rivne nuclear plants, and at Russia's Kola, Novovoronezh, and Leningrad nuclear plants. (NS4)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Complete plans for critical asset identification within the Department and test vulnerability assessment techniques in two components of the Energy Sector in countries of the former Soviet Union. (NS7-1)* (BELOW EXPECTATION: This was a unfunded mandate but significant progress was made.) • *Promote U.S. positions and practices in international forums that advocate safe reactor operations. (NS7-1)* (MET GOAL) • *Complete a comprehensive decommissioning engineering survey of Chornobyl Unit 1. (NS7-3)* (MET GOAL)	• *Establish a Ukrainian Center for Nuclear Fuel and Reactor Core Design and collect information that will be used to design and test nuclear fuel. (NS7-1)* • *Obtain final design approval for the Chornobyl Heat Plant and complete delivery of major equipment to the construction site. (NS7-1)*	• *Complete fire protection system upgrades at the Kazakhstan BN-350 nuclear plant. (NS4)* • *Complete implementation of symptom-based emergency operating instructions at the Kozloduy plant and at Novovoronezh plant unit 4. (NS4)* • *Complete projects at the International Chornobyl Center to characterize the condition of spent nuclear fuel at Ukrainian power plants and to evaluate safe options for spent fuel management. Complete plans and safety analyses for the shutdown and deactivation of Chornobyl units 1, 2 and 3. (NS4)* • *Complete construction of heat plant to support long-term decommissioning of the Chornobyl reactors. (NS4)* • *For the Ukraine nuclear fuel qualification program, complete basic technology transfer activities, and deliver the lead test assemblies. (NS4)*

Means and Strategies for FY2001:

In FY 2001, the Department will call upon its existing scientific and engineering expertise and its laboratory facilities. Because of the nature of the many international nuclear safety projects, the human and technological resources employed are by necessity multi-disciplinary, requiring a diverse technology base. The emphasis throughout the international nuclear safety program is close coordination with internal and external customers, to ensure responsiveness to their actual needs.

Collaboration Activities:

DOE coordinates its activities with the Departments of State and Defense, the U.S. Agency for International Development, as well as many other international organizations that are working to improve the safety of Soviet-designed reactors.

External Factors Affecting Performance:

Extremely poor economic conditions in host countries impact ability to come up with their portion of work on projects. Customs issues arise periodically impacting schedules.

Validation and Verification:

Data Sources:	Project management reviews and reports.
Baselines:	Technical baselines are specified in a project work plan.
Frequency:	Quarterly technical and financial reports, and annual project life cycle plans submitted.
Data Storage:	The headquarters, field, and laboratory/contractor activity managing the project maintain data on technical progress.
Verification:	Use of fixed price contracts with payments made only after receipt of acceptable deliverables. Also, analytical, and technical activities have specific reporting periods. DOE supplements these with broader program reviews.

Planned Program Evaluation:

DOE uses a process of extensive internal and external reviews to evaluate progress against established plans. These reviews provide an opportunity to verify and validate the performance data that the implementing organizations have provided. Detailed, quarterly progress reports are received for this program to ensure technical progress costs and schedules are being met.

DOE Decision Unit: Highly Enriched Uranium Transparency Implementation

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Atomic Energy				
Nonproliferation and National Security	-	NN	16	15

Description of the Program:

The Highly Enriched Uranium (HEU) Transparency Implementation program is responsible for ensuring that the nonproliferation aspects of the February 1993 HEU Purchase Agreement between the United States and the Russian Federation are met. This Agreement covers the purchase over 20 years of low enriched uranium (LEU) derived from at least 500 metric tons of HEU removed from dismantled Russian nuclear weapons. Under the Agreement, conversion of the HEU components into LEU is performed in Russian facilities. The purpose of the program is to put into place and implement those measures agreed to by both sides, that permits the United States to have confidence that the Russian side is abiding by the Agreement. The program also requires the United States to support comparable monitoring activities by the Russian Federation representatives at U.S. facilities subject to the Agreement.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Monitor the dilution of 30 metric tons of highly enriched uranium (HEU) to low enriched uranium (LEU) from dismantled Russian nuclear weapons for purchase by the United States Enrichment Corporation (USEC). (NS4-2)* (MET GOAL)	• *Monitor the conversion of 30 metric tons of HEU from dismantled Russian nuclear weapons into LEU for purchase by USEC. (NS4-2)*	• *Monitor the conversion of 30 metric tonnes of HEU into LEU for purchase by USEC. (NS4)*
	• *Conduct up to 24 special monitoring visits to the four Russian nuclear processing facilities. (NS4-2)*	• *Conduct up to 24 special monitoring visits to the four Russian nuclear processing facilities. (NS4)*
	• *Install permanent monitoring equipment at the Zelenagorsk blending facility. (NS4-2)*	• *Complete negotiations to open Permanent Presence Office at Seversk processing facility. (NS4)*
	• *Maintain and monitor the UF_6 flow and enrichment measurement equipment installed at the blend points at a Russian HEU dilution facility. (NS4-2)*	• *Maintain and monitor the UF6 flow and enrichment measurement equipment installed at the blend points at Russian HEU dilution facilities. (NS4)*
	• *Conduct Russian technology demonstrations to further warhead dismantlement or transparency measures. (NS4-2)*	

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
	• *Compile and analyze collected data and information into an assessment of confidence with the nonproliferation objectives of the HEU Agreement. (NS4-2)*	• *Compile and analyze collected data and information into an assessment of confidence with the nonproliferation objectives of the HEU Agreement. (NS4)*

Means and Strategies for FY2001:

In FY 2001, the Department will conduct up to 24 special monitoring visits to the four Russian nuclear processing facilities in the program. Permanent presence monitors will conduct transparency operations at the Ural Electrochemical Integrated Plant and should complete negotiations to open and staff a permanent office in Seversk. DOE will maintain and collect transparency data from permanently installed monitoring equipment at 2 of 3 blending facilities. Technical analyses of collected transparency data will be conducted and results reported to interagency working groups.

Collaboration Activities:

DOE coordinates its HEU Transparency Implementation operations with the Department of State. We also provide information to DOD and other DOE programs conducting operations at the four Russian facilities in the HEU Transparency program.

External Factors Affecting Performance:

Contract negotiations between the U.S. Enrichment Corporation and Techsnabexport (Tenex) of Russia will affect the quantity of HEU converted and resultant LEU delivered per year within the overall contract. The effectiveness of the HEU Transparency program could facilitate U.S. national security and nonproliferation programs and policy implementation.

Validation and Verification:

Data Sources:	Project management reviews and reports. Foreign travel trip reports and technical debriefings by monitoring teams.
Baselines:	30MT/year of HEU conversion established by contract between Tenex (Russia) and USEC (US). Monitoring trips established by bilateral negotiations are currently set at 6 per site per year.
Frequency:	Technical debriefings conducted for each monitor team visit via interagency coordinating group. Technical analysis of transparency data continuously updated and reported at least semi-annually.
Data Storage:	Automated Data Analysis, Retrieval and Transfer system operational and used for transparency data and related documents. An automated information management system will be available and routinely updated. Access to both systems is closely managed.
Verification:	Program management reviews confirm progress and modifications to operations. Special and Permanent monitoring teams provide a report of activities and technical debriefings to management and interagency representatives.

Planned Program Evaluation:

DOE uses a process of extensive program reviews to evaluate progress against established plans and milestones. The program also conducts an extensive data analysis program and reports results to DOE management and an interagency working group. We also use a bilateral Transparency Review Committee process between U.S. and Russian representatives to modify transparency operations and responsibilities to match current and planned operations. Cost, schedules, and program operations are reviewed semi-annually in addition to monthly status reporting and technical reviews.

DOE Decision Unit: Fissile Materials Disposition

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Atomic Energy Defense Activities				
Fissile Materials Disposition	-	MD	153	223

Introduction of the Decision Unit:

The Fissile Materials Disposition Program is responsible for implementing a path forward for disposing of surplus U.S. weapons-usable fissile materials, including highly enriched uranium and plutonium, providing key negotiation and technical support for efforts to attain reciprocal actions for disposing of surplus Russian plutonium, and storing surplus U.S. fissile materials pending disposition. These efforts contribute to the Administration's goal to reduce the nuclear danger and the threat of proliferation by disposing of U.S. surplus plutonium and highly enriched uranium, and helping Russia dispose of their surplus plutonium.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Complete the final Environmental Impact Statement and issue a Record of Decision on siting plutonium disposition facilities. (NS4-2)* (NEARLY MET GOAL) • *Initiate design for Pit Disassembly and Conversion Facility, and the Mixed Oxide (MOX) Fuel Fabrication facility. (NS4-2)* (MET GOAL) • *Initiate, by the end of FY 1999, negotiations with Russia on a bilateral agreement for the disposition of surplus weapons plutonium. (NS4-2)* (EXCEEDED GOAL) • *Continue transfer of U.S. surplus HEU to the United States Enrichment Corporation for dilution and subsequent sale. (NS4-2)* (MET GOAL)	• *Complete Title I design of the MOX Fuel Fabrication Facility required for submittal of licence application to the Nuclear Regulatory Commission. (NS4-2)* • *Begin to implement a bilateral agreement with Russia for plutonium disposition. (NS4-2/FMFIA)* • *Issue the Record of Decision on a site(s) for three plutonium disposition facilities. (NS4-2/FMFIA)* • *Begin the Environmental Impact Statement for the disposition of Uranium 233. (NS4-2/FMFIA)* • *Ship 4MT (8% of 50MT) of surplus HEU to U.S. Enrichment Corporation (USEC). (NS4-2)*	• *Initiate Title II design of the Pit Disassembly and Conversion Facility and the MOX Fuel Fabrication Facility within the design baseline. (NS4)* • *Initiate the design of the Immobilization Facility. (NS4)* • *Support international financing arrangements for Russian plutonium disposition activities. (NS4)* • *Begin facility upgrades for a demonstration-scale plutonium conversion system in Russia. (NS4)* • *Ship 9 MT (18% of 50MT) of surplus HEU to USEC. (NS4)*

Means and Strategies for FY 2001:

The Fissile Materials Disposition Program continues the necessary research and development, facility design, and site support activities necessary to implement the Administration's hybrid strategy for U.S. plutonium disposition (involving both immobilization and irradiation of MOX fuel in reactors). Following a bilateral agreement with Russia, anticipated in FY 2000, the U.S. and Russia would each proceed to implement parallel programs with comparable, although not necessarily identical, rates of plutonium disposition. The Fissile Materials Disposition Program continues to dispose of surplus highly enriched uranium by down-blending the material to low-enriched uranium for peaceful use in commercial reactors.

Collaboration Activities:

The United States Enrichment Corporation and the Tennessee Valley Authority are key players in the success of the highly enriched uranium disposition effort. The Department provides technical support to the U.S. Department of State as the lead for negotiating a bilateral plutonium disposition agreement with Russia, and for negotiating with the international community to provide financial support for plutonium disposition in Russia.

External Factors Affecting Performance:

Agreement with Russia on plutonium disposition is needed for the U.S. will not begin construction of plutonium disposition facilities at Savannah River. The Nuclear Regulatory Commission is responsible for licensing the MOX fuel fabrication facility and the commercial reactors that will irradiate MOX fuel.

The Fissile Materials Disposition Program also relies on other Department of Energy elements (Defense Programs and Environmental Management) to use existing facilities, personnel, and processes to store and dispose of surplus fissile materials and to minimize overall Department costs, to shorten the time to complete projects, and to provide mutually-beneficial performance results. Uncoordinated changes in those baseline programs could impact performance of the Fissile Materials Disposition program.

Validation and Verification:

Data Sources:	Technical objectives and progress specified in research and development reports and international agreements; cost performance data generated by DOE and contractor financial systems; program/project specified schedule tracking systems; project management reviews.
Baselines:	Long-term baselines established by MD Level 1 Master Schedule; annual scope, cost, and schedule baselines established via MD Annual Operating Plan; project design and construction baselines established in Project Execution Plans and contract requirements.
Frequency:	MD required cost and schedule performance reports reviewed monthly; technical evaluations conducted at specified review points; facility design reviews conducted at established increments of design efforts.
Data Storage:	Project management data on MD network server; technical and design data on contractor project-specific computer systems.
Verification:	Cost data verified by DOE and MD financial systems. Schedule data verified by project work scope managers through receipt and review of technical products and reports and accomplishment of technical milestones.

Planned Program Evaluation:

MD conducts weekly, monthly, and quarterly reviews at varying levels to monitor progress in implementing the Administration's hybrid strategy for plutonium disposition and for highly enriched uranium disposition. Reviews will occur more frequently as the disposition program moves further into the implementation phases.

DOE Decision Unit: Naval Reactors

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001 Budget** Request ($M)
050 Atomic Energy Defense Activities				
Naval Reactors	-	NE-60	675	678

Description of the Program:

Naval Reactors is responsible for all Naval nuclear propulsion work, beginning with technology development, continuing through reactor operation and, ultimately, reactor plant disposal. The Program's efforts have ensured, and continue to ensure, the safe operation of the many reactor plants in operating nuclear powered submarines and aircraft carriers, and have fulfilled the Navy's requirements for new reactors to meet evolving national defense demands.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
	• *Ensure the safety, performance reliability, and service-life of operating reactors. (NS6-1)*	• *Ensure the safety, performance, reliability, and service-life of operating reactors. (NS6)*
• *Develop new reactor plants, including the next generation reactor, which will be 85 percent complete by the end of FY 1999, and ensure the safety, performance reliability, and service-life of operating reactors. (NS6-1)* (EXCEEDED GOAL)	• *Develop new reactor plants, including the next generation reactor, the design of which will be 90 percent complete by the end of FY 2000, and complete initial development efforts on a reactor plant for the next generation aircraft carrier. (NS6-1)*	• *Develop new technologies, methods and materials to support reactor plant design, including the next generation reactor, which will be 93 percent complete by the end of FY 2001, and initiate detailed design efforts on a reactor plant for the next generation aircraft carrier. NS6)*
• *Ensure radiation exposures to workers or the public from Naval Reactors' activities are within Federal limits and no significant findings result from environmental inspections by State and Federal regulators. (NS6-2)* (MET GOAL)	• *Ensure radiation exposures to workers or the public from Naval Reactors activities are within Federal limits and no significant findings result from environmental inspections by State and Federal regulators. (NS6-1)*	• *Maintain outstanding environmental performance-- ensure no personnel exceed Federal limits for radiation exposure and no significant findings result from environmental inspections by State and Federal regulators. (NS6)*

Means and Strategies for FY 2001:

The Department uses two government-owned, contractor-operated laboratories, the Bettis and Knolls Atomic Power Laboratories (approx. 5,500 people), which are solely dedicated to Naval nuclear propulsion work. Through these laboratories and testing conducted at the Advanced Test Reactor (ATR) located at the Idaho National Engineering and Environmental Laboratory (INEEL), the Department will complete scheduled design, analysis and testing of reactor plant components and systems and conduct planned development, testing, examination, and evaluation of nuclear fuel systems, materials, and manufacturing and inspection methods necessary to ensure the continued safety and reliability of reactor plants in Navy warships. The Department will also accomplish planned testing, maintenance and servicing at land-based prototype nuclear propulsion plants, and execute all planned inactivation of surplus, land-based reactor plants in support of environmental clean-up goals if the over target funding is provided. Finally, the Department will carry out the radiological, environmental and safety monitoring and ongoing clean-up of facilities necessary to protect people, minimize release of hazardous effluents to the environment and comply with all applicable regulations.

Collaboration Activities:

Naval nuclear propulsion work is an integrated effort of the DOE and Navy. The Navy and DOE are full partners in the Naval Nuclear Propulsion Program. Most recently this relationship is set forth in the Executive Order 12344 and Title 42 of the U.S.C. 7158.

External Factors Affecting Performance:

Industry-specific business conditions, outside technological developments and Department of Navy decisions all impact the performance of Naval nuclear propulsion work.

Validation and Verification:

Data Sources:	The DOE's Office of Naval Reactors (NR) maintains an integrated business and financial management information system used by headquarters, field offices and M&O contractors. This system incorporates program performance measure data. Work outcomes are tracked and reported at appropriate levels. Both financial and technical performance measure accomplishments are reported and reviewed semi-annually.
Baselines:	The baselines are established based on technical scopes of work and the associated costs approved by the Department.
Frequency:	Financial performance is updated monthly. Status of technical performance is tracked through various methods, including ongoing oversight by field offices; periodic, in depth program reviews; ongoing audit programs; and formal reports. Performance measure status is reviewed semi-annually.
Data Storage:	Source documentation is held by the Office of Naval Reactors.
Verification:	Department approval of all work done at laboratories, close oversight of M&O contractors, periodic program reviews, formal audits and appraisals, and frequent reporting.

Planned Program Evaluation:

DOE uses extensive internal and external reviews to evaluate progress against established plans. NR plans semi-annual reviews of performance measure execution in addition to monthly financial and technical work reviews with the M&O contractors.

DOE Program Decision Units: Intelligence and Counterintelligence

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Unit**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
Other Defense Activities				
Intelligence	Intelligence	IN	35	38
Counterintelligence	Counterintelligence	CN	37	45

Introduction of the Decision Unit:

The Intelligence Program provides the Department, other U.S. government policymakers, and the Intelligence Community with timely, accurate, high impact foreign intelligence analyses in the following core areas: nuclear proliferation and weapons; nuclear energy, safety, and waste; science and technology; and energy security. In addition, this program provides support to the Department's counterintelligence objectives. The Intelligence Program also provides quick turnaround, specialized technology applications and operational support to the intelligence, special operations, and law enforcement communities.

The Counterintelligence program provides the Department, other U.S. Government policymakers, and the Intelligence Community with the capability to successfully identify, neutralize, and deter intelligence threats directed at the Department's facilities, personnel, information, and technologies.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Implement the DOE Counter-intelligence Action Plan pursuant to Presidential Decision Directive-61 to strengthen controls and protections of sensitive information, especially at the nuclear weapons laboratories. (NS3-3)* (NEARLY MET GOAL)	• *Improve the Department's ability to identify foreign intelligence targeting against Departmental facilities, personnel, information, and technologies through better exploitation of all-source intelligence information. (NS3-3)* • *Complete the Counter Intelligence Implementation Plan's recommendations. (FMFIA)*	• *Inform U.S. nonproliferation and arms control policy formulation and execution with all-source evaluations of foreign nuclear weapons programs. (NS5)*

Means and Strategies:

In FY 2001, the Department will produce and disseminate intelligence analyses assessing the efforts of key countries, organizations, or individuals to acquire, develop, or sell nuclear weapons or related materials, technologies, and expertise. DOE also will produce and disseminate intelligence analyses evaluating Russian activities, strategies, intentions, and requirements with respect to various bilateral and multilateral nuclear weapons-related treaties and agreements.

Collaboration Activities:

In addition to those analyses reflecting the Department's particular technical expertise and viewpoints on foreign nuclear weapons programs, DOE will work with its counterparts in intelligence analysis of foreign nuclear programs to produce analyses reflecting common Intelligence Community positions as well as areas of disagreement on issues of key policy interest.

External Factors Affecting Performance:

The availability of credible, high-quality data from multiple sources will have a direct impact on DOE's ability to produce solid intelligence analysis on any given national security issue. In addition, analytic production on specific countries and topics frequently is driven by high-profile international developments, which may influence the mix of coverage in any given fiscal year.

Validation and Verification:

Data Sources:	Quarterly reports and program review briefings.
Baselines:	Established annually in approved program plans.
Frequency:	Quarterly financial progress reports and annual program reviews.
Data Storage:	N/A
Verification:	Analytic activities have quarterly reporting periods, which are supplemented by and expanded upon in annual program reviews.

Planned Program Evaluation:

Intelligence analytical activities undergo an annual program review each spring that both reviews progress and accomplishments in the year to date and previews key issues for the upcoming fiscal year. In addition, a strategic plan for DOE's intelligence program is being undertaken, to be completed by January 2001.

DOE Program Decision Unit: Worker and Community Transition

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Other Defense Activities				
Worker and Community Transition	Worker and Community Transition	WT	24	25

Introduction of the Decision Unit:

The mission of the Office of Worker and Community Transition is to minimize the social and economic impacts of changes in the Department's activities and encourage disposition of the Department's unneeded assets.

The principle functions of the Office are to: (1) establish policy and provide funding for contractor work force restructuring activities; (2) develop policy for contractor labor relations, oversee the collective bargaining process, and assist the Department's Field organizations in labor/management relations; (3) establish policy for community transition and allocate funding to mitigate economic impacts; (4) assist field organizations reduce the operating costs associated wit maintaining the Department's infrastructure; and (5) provide information and opportunities for participation in the decision-making process affecting the contractor work force and adjacent communities.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Keep involuntary separations between 30 and 60 percent of positions eliminated while assuring maintenance of essential work force skills mix and productivity. (NS3-6)* (NEARLY MET GOAL)	• *Limit involuntary termination of employment at Department of Energy defense nuclear facilities between 30 and60 percent of positions eliminated. (NS3-6)*	• *Develop strategies to limit increases in unplanned employee attrition at early closure sites to no more than 30 percent, in order to maintain essential work skills. (NS3)*
• *Achieve annual recurring costs savings from separated workers that is at least three times the one time cost of separation. (NS3-6)* (EXCEEDED GOAL)	• *Achieve annual recurring costs savings from separated workers that is at least three times the one time cost of separation. (NS3-6)*	• *Achieve annual recurring costs savings from separated workers that are at least three times the one time cost of separation.(NS3)*
• *Support local community transition activities that will create, cumulatively, 15,000 to 20,000 new private sector jobs by the end of FY 1999. (NS3-6)* (EXCEEDED GOAL)	• *Support local community transition activities that will create 3,000 to 5,000 jobs during FY 2000, bring the total jobs created to between 20,000 and 25,000 by the end of FY 2000. (NS3-6)*	• *Support local community transition activities that will create, cumulatively, 24,000 and 27,500 new private sector jobs by the end of FY 2001. (NS3)*

Means and Strategies for FY2001:

The Department will achieve the workforce restructuring objectives through headquarters oversight and contractor performance measures that will encourage cost-effective use of voluntary separation strategies, manage attrition, and internal placement. The community transition goal will be achieved through financial and technical assistance provided to community reuse organizations at the affected sites. The economic conversion goal will be achieved through headquarters technical assistance and oversight to field organizations designed to encourage the leveraging of underutilized assets to achieve cost savings.

Collaboration Activities:

The Office of Worker and Community Transition works through Lead Program Offices at Field activities to coordinate work force planning and restructuring requirements and strategies in consultation with interested stakeholders. The community transition activities work through the Community Reuse Organizations (CRO) make up of representatives from each diverse group within the community.

External Factors Affecting Performance:

Funding levels, contracting strategies, and mission changes in major operating programs fundamentally influence the need for work force restructuring and community transition assistance. Uncertainties in long-range plans and resources could adversely impact the ability to meet program objectives.

Validation and Verification:

Data Sources:	Annual Report on Contractor Work Force Restructuring, Field manager certifications, Community Transition Semi-Annual Report
Baselines:	Same as above.
Frequency:	Annually and semi-annually
Data Storage:	Electronic files, WT's office library, WT's web page
Verification:	Field and CRO representatives and Lead Program Offices at Headquarters

Planned Program Evaluation:

The Annual Report on Contractor Work Force Restructuring and independent reviews and audits have been performed by the GAO and Booz-Allen & Hamilton, Inc. with anticipated continued external review and evaluation. Revised community transition criteria were developed in 1999 in response to GAO recommendations.

DOE Decision Unit: Security and Emergency Operations

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 - Other Defense Activities				
Security and Emergency Operations	-	SO	264	320

Description of the Program:

This new office consolidates functions and budgets from several DOE offices to develop and promulgate safeguards and security policy, oversee all security-related functions in the Department, and centralize cyber-security and emergency operations throughout the DOE complex. In FY 2001, the Director of Security and Emergency Operations will have direct control over safeguards and security funding. As a new office, most of these performance goals for FY 1999 and FY 2000 were developed and proposed by previous management in support of the then-current Strategic Plan. Linkage to previous performance goals has been maintained and is identified in the following tables.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Conduct oversight reviews to ensure that an effective Safeguards and Security program is maintained at all nuclear weapons facilities. (formerly NN) (NS3-1)* (MET GOAL)	• *Reinforce security awareness through a Department-wide campaign. (NS3-3)*	
	• *Implement Zero Tolerance Policy for unauthorized disclosure of classified safeguards and security information. (NS3-3)*	• *Enforce Zero Tolerance policy for unauthorized disclosure of classified safeguards and security information. (NS7)*
• *Develop a comprehensive Weapons of Mass Destruction Defense Plan which addresses security planning, equipment, training, and exercise requirements. (formerly NN) (NS3-1)* (MET GOAL)	• *Develop a streamlined Site Safeguards and Security Plan process. (NS3-3)*	• *Implement a comprehensive Weapons of Mass Destruction Plan which addresses security planning, equipment, training and exercises. (NS7)*
	• *Develop policies to safeguard DOE nuclear materials, classified matter, and facilities on a graded basis. (NS3-3)*	• *Develop policies to safeguard DOE nuclear materials, classified matter, and facilities on a graded basis, consistent with their economic and strategic values. (NS7)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Plan, coordinate, conduct and participate in an Interagency National Security Technology Exchange (INTSE) conference. (formerly NN) (NS3-1)* (MET GOAL)	• *Consolidate the Personnel Security Assurance Program and the Personnel Assurance Program into a single Departmental Human Reliability Program. (NS3-3)*	• *Plan, coordinate, conduct and participate in an Interagency National Security Technology Exchange (INSTE) conference. (NS7)*
	• *Finalize revision to the DOE Protective Force Order (DOE Order 473.2) to include specific direction which addresses security planning, training, and exercises to prepare for a weapon of mass destruction event. (NS3-3)*	• *Effectively maintain information on visits and assignments by foreign nationals to DOE federal and contractor sites. (NS7)*
	• *Implement advanced safeguards and security technologies to reduce DOE facilities' vulnerabilities to chemical and other threats. (NS3-3)*	• *Reduce DOE facilities' vulnerabilities to chemical threats through sensor development and chemical protective equipment. (NS7)*
• *Initiate needed material protection, control, and accountability upgrades at DOE facilities with weapons-usable material. (formerly NN) (NS3-3)* (MET GOAL)	• *Continue material protection, control, and accountability upgrades at DOE facilities with weapons-usable material. (NS3-3)* • *Initiate efforts to implement and maintain core material control and accounting software to standardize nuclear material accounting throughout DOE. (NS3-3)*	• *Ensure that all sites protecting CAT I and CAT II nuclear materials have modernized or have plans to modernize the site integrated security communication, command, and control systems. (NS7)*
• *Further the protection of all U.S. origin nuclear materials in the U.S. and abroad from possible theft, loss, or illicit trafficking. (formerly NN) (NS3-3)* (MET GOAL)		• *Provide cost-effective technical solutions to protect the Department's critical assets, which include special nuclear materials, classified information, and DOE facilities. Satisfy safeguards treaty obligations. (NS7)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Develop advanced safeguards and security technologies for implementation in FY 2000. (formerly NN) (NS3-3)* (MET GOAL)	• *Expand forensic analysis for improved cyber security for classified information systems. (NS3-3)*	• *Identify Pu and HEU inventories where accountability information is incomplete, out-of-date or nonexistent. (NS7)*
• *Implement advanced technologies to prevent the theft or diversion of special nuclear materials including the unattended on-line gamma-ray monitor. (formerly NN) (NS3-3)* (MET GOAL)	• *Initiate the correction of DOE infrastructure vulnerabilities identified by the President's Commission on Critical Infrastructure Protection. (NS3-3)*	• *Maintain baseline measurement uncertainty information on Pu and HEU inventories. (NS7)* • *Conduct validation and technical assessments on inventory data to identify accountability-related issues such as inventory differences. (NS7)*
• *Issue timely technical reports and threat assessments regarding potential domestic and/or foreign proliferant risks. (formerly NN) (NS3-3)* (UNSPECIFIED)		
• *Develop information on nuclear materials in waste in a new Departmental database for all nuclear materials by the end of the first quarter of FY 1999. (formerly NN) (NS3-3)* (NEARLY MET GOAL)		• *Work with Nuclear Regulatory Commission to maintain information on nuclear materials in waste in a Departmental database for all nuclear materials. (NS7)*
• *Demonstrate improvement of a comprehensive management system to ensure effective Departmental response to all DOE emergencies. (formerly NN) (NS3-5)* (MET GOAL)	• *Demonstrate improvement of a comprehensive management system to ensure effective Departmental response to all DOE emergencies. (NS3-5)*	• *Demonstrate improvement of a comprehensive emergency management system to ensure effective Departmental response to all DOE emergencies. (NS7)*
• *Maintain robust emergency response assets in accordance with Presidential Decision Directive 39, The Atomic Energy Act, Executive Order 12656, and Federal Emergency Plans. (formerly DP/NN) (N3-5)* (MET GOAL)	• *Maintain robust emergency response assets in accordance with Presidential Decision Directive 39, The Atomic Energy Act, Executive Order 12656, and Federal Emergency Plans. (N3-5)*	• *Maintain robust emergency response assets in accordance with Presidential Decision Directives 39, 41, 62, 63 and 67 and the Atomic Energy Act, Executive Order 12656, and Federal Emergency Plans. (NS7)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Continue reviewing DOE documents for possible declassification and release of those that no longer need to be withheld for security purposes. (formerly NN) (CM2-3)*	• *Implement all declassification actions concurred in by DOD that were recommended by the Fundamental Classification Policy Review and other internal DOE reviews. (CM2-3)*	• *Implement all declassification actions concurred in by DOD that were recommended by the Fundamental Classification Policy Review and other internal DOE reviews. (NS7)*
• *Implement the fundamental Classification Policy Review recommendations and issue 40 classification guides in the streamlined format containing the updated guidance. (formerly NN) (CM2-3)*	• *Issue two updated classification guides in the streamlined guidance format. (CM2-3)*	• *Issue two updated classification guides in the streamlined guidance format and one guideline covering certain technology-related Unclassified Controlled Nuclear Information. (NS7)*
• *Implement 10 CFR Part 1045 through reviewing 100 percent of other agency classification guides submitted, and by conducting five on-site reviews of other-agency Restricted Data programs. (formerly NN) (CM2-3)*	• *Conduct three on-site reviews of the Restricted Data implementation programs of other agencies to evaluate their implementation of requirements contained in Part 1045 or the Special Historical Records Review Plan required by Public Law 105-261, Section 3161. (CM2-3)*	• *Conduct three on-site reviews of the Restricted Data implementation programs of other agencies to evaluate their implementation of requirements contained in 10 CFR Part 1045 or the Special Historical Records Review Plan required by Public Law 105-261, Section 3161. (NS7)*
	• *Audit documents declassified by other agencies implementing section 3.4 of Executive Order 12958 to ensure that nuclear weapon design information is not inadvertently released (quantity of documents reviewed depends on number of documents declassified by other agencies and available resources). (CM3-2)*	• *Audit documents declassified by other agencies implementing section 3.4 of Executive Order 12958 to ensure that nuclear weapon design information is not inadvertently released (quantity of documents reviewed depends on number of documents declassified by other agencies). (NS7)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
	• *Reduce by 15 actions the processing backlog of requests for classified documents submitted under the Freedom of Information Act and Executive Order 12958 mandatory review provisions. (CM2-3)*	• *Reduce by 20 actions the processing backlog of requests for classified documents submitted under the Freedom of Information Act and Executive Order 12958 mandatory review provisions. (NS7)*
• *Accomplish the milestones of the FMFIA corrective action plan for the Departmental challenge of unclassified computer security. (formerly MA) (CM5-1)* (MET GOAL)	• *Complete all FY 2000 milestones in the Corporate Management Information Program (CMIP) Plan. (CM5-1)*	• *Review DOE documents to classify those that warrant protection in the interest of the national security and declassify those that do not warrant such protection (quantity of documents reviewed depends on the number of documents needing review and available resources). (NS7)*
• *Continue to improve infrastructure to allow staff the capability of accessing and sharing information easily and seamlessly across the DOE complex. (formerly MA) (CM5-1)* (MET GOAL)	• *Satisfy all program office computing/ telecommunications requirements in Working Capital Fund Service agreements. (CM5-1)* • *Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of Security. (FMFIA)*	• *Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of Security. (FMFIA)*
• *Continuously evolve the Department-wide information architecture with supporting standards to foster $100 million on cost avoidances by FY 2003. (formerly MA) (CM5-1)* (EXCEEDED GOAL)	• *Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of Mission Critical Staffing. (FMFIA)*	• *Complete the milestones listed in the FMFIA corrective action plan for the Departmental Challenge of Mission Critical Staffing. (FMFIA)*
• *Implement all FY 1999 milestones for year 2000 changes for mission-essential systems. (formerly MA) (CM5-1)* (MET GOAL)		
• *Develop the Corporate Management Information Program (CMIP) milestone plan and report to Congress. (formerly MA) (CM5-1)* (EXCEEDED GOAL)		

DOE Decision Unit: Independent Oversight & Performance Assurance

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
Other Defense Activities				
Oversight Activities	-	OA	13	15

Description of the Program:

The Office of Independent Oversight and Performance Assurance (OA) is a corporate resource that performs independent oversight to verify that DOE security interests are protected and that DOE can respond to emergencies. The Office is committed to excellence and continuously strives for improvement by conducting independent oversight of safeguards and security performance. The hallmark and highest priority of all Independent Oversight and Performance Assurance activities is daily excellence in the protection of the workers and the Nation. The Office of Independent Oversight and Performance Assurance activities are concentrated within one division unit: Independent Oversight and Performance Assurance; and a program direction decision unit.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Conduct oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management, and safeguards and security. (CM1-1)*	• *Conduct oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management, safeguards and security, and cyber-security. (CM1-1)*	• *Conduct safeguards and security evaluations at 20 major sites per year to provide an independent assessment of the status of safeguards and security programs for the Secretary and to establish a baseline of findings in a database designed to track and measure improvement in these areas at sites throughout the Department. (NS7)* • *Perform continuous cyber security inspections and no-notice reviews at 14 major Departmental sites per year to improve oversight of cyber security and establish a baseline of issues through a new function dedicated solely to cyber security reviews, offsite monitoring of Internet security, and controlled attempts to penetrate security firewalls. This new function represents a substantial increase over previous efforts to evaluate cyber security within the Department. (NS7)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
		• *Provide for the dedicated oversight of emergency management issues at Department Headquarters and 15 major Departmental sites. This function focuses solely on the effectiveness of the Department's emergency management programs and establish a performance baseline of the status of these programs throughout the Department. (NS7)* • *Conduct special complex-wide reviews of topics such as Personnel Security, Material Control and Accountability, and Foreign Visits and Assignments programs to determine their effectiveness across the complex. Findings and issues associated with these programs will be maintained in a database to track corrective actions and assist in measuring improvement in these critical areas throughout the Department. (NS7)*

Means and Strategies for FY2001:

In order for the Office of Independent Oversight and Performance Assurance (OA) to achieve its mission, it requires the technical support of national-level experts that are at least comparable to Federal personnel at the excepted service level. While Independent Oversight and Performance Assurance has some unique, national-level experts, these are insufficient to perform all necessary oversight activities. Further, because of the nature of the activities, contract support continues to be more practical and cost-effective to provide a surge pool of technical experts than expanding the Federal oversight staff for a number of reasons:

- Peak loads associated with onsite inspections make it more effective and efficient to use contractor personnel who are tasked only when needed.
- The need for evaluators with national-level expertise in different technical disciplines (ranging from cyber-security to nuclear material control and accountability) is more efficiently provided by contractors. The needs for various technical expertise are continually evolving and frequently change as new needs are identified. Such evolving needs can best be met through use of contractors as the Federal staff and personnel systems are unable to rapidly respond to the continually changing skills mix.

Similarly, because of the nature of Independent Oversight and Performance Assurance activities and the intense scrutiny that Independent Oversight and Performance Assurance is under, Independent Oversight and Performance Assurance reviews must be performed in a manner that is demonstrably unbiased.

Validation and Verification:

Data Sources:	Information is collected and validated at the field sites during the inspection reviews etc.
Baselines:	Technical baselines are currently under development for the new program.
Frequency:	Reviews occur as appropriate with approximately 20 major sites being reviewed annually.
Data Storage:	The Office of Independent Oversight and Performance Assurance maintains copies of all reports. All unclassified reports are available through the INTERNET.
Verification:	All findings during reviews are validated with the site. The site also reviews the report before publication.

Planned Program Evaluation:

OA is the highest level of oversight in the Department for these activities. An extensive peer and program review process is followed to assure that reports reflect the highest quality achievable.

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ENVIRONMENTAL QUALITY

The Department of Energy is committed to honoring the Government's obligation to clean up sites across the country that supported the Nation's production of nuclear weapons, to dispose of spent nuclear fuel from civilian nuclear power plants, and to protect human health and the environment. The nuclear weapons complex generated large amounts of waste, which pose unique problems, including unprecedented volumes of contaminated soil and water, radiological hazards from special nuclear material, and a vast number of contaminated structures. Much of this massive infrastructure, waste, and contamination still exists.

The Department of Energy's Office of Environmental Management (EM) has made significant progress over the past decade in meeting the enormous challenge of cleaning up the nuclear weapons complex. As of the beginning of FY 2000, cleanup had been completed at 69 of the 113 geographic sites in the EM program, leaving 44 to be completed.

By 2006, the Environmental Management (EM) program intends to complete cleanup at most of its 44 remaining sites. At the sites remaining after 2006, including our largest sites, treatment will continue for the remaining "legacy" waste streams and management (including stabilization and disposition) of legacy nuclear materials will continue. Even after completing cleanup, the Department will maintain a presence at most sites to monitor, maintain, and provide information on the contained residual contamination. These activities are designed to maintain the long-term protection of human health and the environment.

In addition to the environmental legacy of the nuclear weapons production, the United States has growing inventories of spent nuclear fuel from commercial nuclear power reactors currently stored at reactor sites in 33 States, and spent fuel from nuclear-powered naval vessels. Geologic disposal is the national strategy for the ultimate disposition of this spent fuel and of defense high-level radioactive waste. It is also the technical foundation for our international stance on nuclear nonproliferation, as well as the likely path forward for other materials such as excess fissile materials. The Department has made substantial progress in characterizing Yucca Mountain, Nevada, to determine its suitability as a geologic repository site for these wastes. A viability assessment drawing on 15 years of study was completed in 1998. Based on the viability assessment, the Department believes that Yucca Mountain remains a promising site for a geologic repository and that work should proceed toward a decision in 2001 on whether to recommend the site to the President. A draft environmental impact statement was published for public comment in 1999. If the site is recommended for development as the repository site, a final environmental impact statement will accompany the site recommendation.

ENVIRONMENTAL QUALITY GOAL

Aggressively clean up the environmental legacy of nuclear weapons and civilian nuclear research and development programs at the Department's remaining sites, safely manage nuclear materials and spent nuclear fuel, and permanently dispose of the Nation's radioactive wastes.

EQ1: ***Cleanup and complete closure of the designated closure sites by 2006, with stewardship activities continuing.***

EQ2: ***Complete all environmental cleanup projects at the majority of sites by 2006, where DOE's mission will continue.***

EQ3: ***Make substantial cleanup progress at the sites that will not be completed by 2006, including the three largest sites.***

EQ4: ***Complete the characterization of the Yucca Mountain site and, assuming it is determined suitable as a repository and the President and Congress approve, obtain requisite licenses, construct and begin emplacement of spent nuclear fuel and high-level radioactive wastes in the repository in FY 2010.***

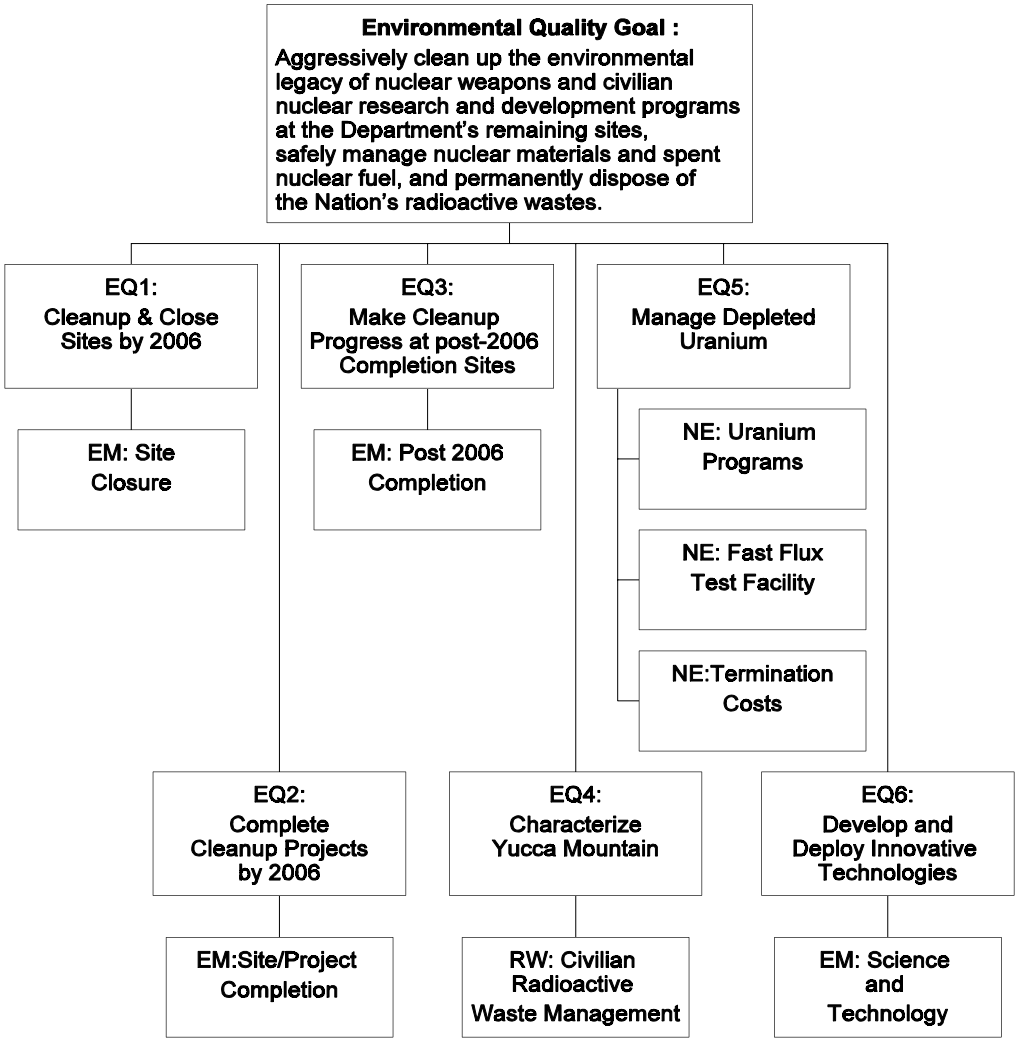
EQ5: ***Manage the material and facility legacies associated with the Department's uranium enrichment activities.***

EQ6: ***Improve scientific understanding and develop and deploy innovative technologies that reduce cost; are more protective of workers, the public, and the environment; and resolve currently intractable problems.***

The following table maps the Presidential Budget's Program and Financing (P&F) accounts and program activities to the Department of Energy's offices and decision units. The alignment includes aggregation, disaggregation, and consolidation.

President's Budget Program and Financing (P&F) Accounts and Program Activities	FY 2001 Budget Request ($M)	DOE Office	DOE Decision Unit
050 Atomic Energy Defense Activities			
Defense Environmental Restoration and Waste Management (ERWM)			
Site/Project Completion	971	EM	Environmental Management
Post 2006 Completion	3,108	EM	
Program Direction	360	EM	
EM Science & Technology	197	EM	
Adjustments	(85)		
Subtotal (ERWM)	4,552		
Defense Facilities Closure Projects	1,082	EM	
Defense Environmental Management Privatization	515	EM	
Uranium Enrichment D&D Fund	(420)	EM	
Adjustments for PY Balances and Pension Fund	(85)	EM	
Defense Nuclear Waste Disposal	112	RW	Civilian Radioactive Waste Management
Subtotal - 050 Atomic Energy Defense Activities	**5,633**		
270 Energy Supply			
Non-Defense Environmental Management	82	EM	Environmental Management
	65	EM	
	140	EM	
Subtotal (Non-Defense EM)	286		
Uranium Enrichment D&D Fund	303	EM	
Nuclear Waste Fund	326	RW	Civilian Radioactive Waste Management
Subtotal - 270 Energy Supply	**916**		
Adjustment for Undistributed Nuclear Waste Fund	(85)		
TOTAL Environmental Quality	**6,670**		

The Environmental Quality goal is supported by strategic objectives. Each strategic objective is being pursued through long-term strategies. The Decision Units fund work on those long-term strategies and the annual performance goals are discussed with the Decision Units on the following pages. DOE Decision Units provide a means to link program resources at lower levels of aggregation to performance goals. While this approach allows us to clearly link annual performance with annual budget resources, we are also keeping our strategic plan goals and objectives in focus by annotating each performance goal with the strategic objective it supports.



DOE Decision Unit: Environmental Management

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
Defense Environmental Restoration and Waste Management	- Site/Project Completion - Post 2006 Completion - Program Direction - EM Science & Technology	EM	4,465	4,552
Defense Facilities Closure Projects	- Site Closure	EM	1,060	1,082
Defense Environmental Management Privatization	- Defense EM Privatization	EM	188	515
Non-Defense Environmental Management	- Site Closure - Site/Project Completion - Post 2006 Completion	EM	307	286
Uranium Enrichment Decontamination & Decommissioning Fund	Uranium Enrichment D&D Fund	EM	249	303
Adjustments	Uranium Enrichment D&D Fund		(420)	(420)
Total		EM	5,851	6,318

Program Decision Unit Description

The Environmental Management (EM) program budget structure categorizes projects according to their specific appropriation – Defense Environmental Restoration and Waste Management, Defense Facilities Closure, Defense Environmental Management Privatization, Non-Defense Environmental Management, and the Uranium Enrichment Decontamination and Decommissioning Fund. The structure of the EM budget continues to be based on the grouping of activities into projects at the various Departmental sites, a crucial step in accelerating work and lowering the cost of carrying out the EM mission.

EM's three budget program accounts reflect near-term goals and emphasis on completion:

- **Site Closure** provides funding for completing cleanup and closing down facilities with no enduring Federal presence on-site, except for stewardship activities. The Department has established a goal of completing cleanup at the sites in this account by the end of 2006.

- **Site/Project Completion** funds those projects for which EM has established a goal of completion by 2006 at 1) EM sites where overall site cleanup will not be fully accomplished by 2006; and 2) DOE sites where EM has set a goal of completion of all EM projects by 2006 (except for long-term stewardship activities), but where there will be a continuing Federal workforce at the site to carry out enduring non-EM missions.

- **Post 2006 Completion** funds projects that are expected to require work beyond 2006 and includes efforts at the Department's largest sites, where operations have been carried out over a long period of time and associated cleanup will take longer to complete. It includes Multi-Site activities, such as Pollution Prevention, Environmental and Regulatory Activities, Transportation and Packaging, Emergency Preparedness, and National Analytical Management Program activities.

The EM budget structure also includes accounts for **Program Direction** (i.e., provides support to the Federal work force responsible for the overall direction and administrative support of the EM program) and **Science and Technology** (i.e., provides resources and capabilities from basic research through development, demonstration, and technical and deployment assistance).

Environmental Management Corporate Performance Measures

EM has developed specific corporate performance measures to link planning goals with the budget, program execution, and evaluation of program progress and results. The EM corporate performance measures demonstrate tangible results towards completing cleanup (or achieving the intended end state) at the remaining geographic sites.

The EM corporate performance measures include:

1. **Number of geographic sites completed –** This measure tracks geographic site completion progress and supports strategic objectives EQ1, EQ2 and EQ3. A geographic site is a distinct geographic location that generated waste or was contaminated by Departmental or predecessor agency activities. As of the beginning of FY 2000, of the 113 sites in the EM program, 69 sites had been completed.

2. **Number of release site assessments and cleanups completed –** These measures track release site cleanup progress and support strategic objectives EQ1, EQ2 and EQ3. Remedial action/release site cleanups are conducted at inactive waste sites or facilities where releases or spills have occurred and contamination has been released into the environment. Completion of release site assessments are also tracked to show interim cleanup results. By the end of FY 2001, approximately 4,900 (50 percent) release site cleanups will be completed out of a total inventory of approximately 9,700 release sites.

3. **Number of facility decommissioning assessments and number of facilities decommissioned** – These measures track facility decommissioning progress and support strategic objectives EQ1, EQ2 and EQ3. Decommissioning involves the decontamination and dismantlement and removal of nuclear facilities that are no longer active and pose a risk to public health and the environment. Decommissioning operations range from small cleanup activities involving portions of buildings to complete structural dismantlement. Completion of facility assessments are also tracked to show interim decommissioning results. By the end of FY 2001, more than 680 (20 percent) facilities will be decommissioned out of a total inventory of approximately 3,300 facilities that require decommissioning.

4. **Volume of waste disposed by waste type** – These measures track waste (i.e., high-level waste, transuranic waste, mixed low-level waste, and low-level waste) disposal progress and support strategic objectives EQ1, EQ2 and EQ3. Waste disposal is defined as waste emplacement designed to ensure isolation of the waste from the biosphere with no intention of retrieval for the foreseeable future, and requiring a deliberate action to regain access to the waste. Waste management disposal activities support completion of the geographic sites and will ultimately enable many of the EM sites to be made available for other beneficial uses.

   – **High-Level Waste** – High-level waste is highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including the liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation. The long-term objective for high-level waste management is disposal in a licensed geologic repository.
   High-level waste is made disposal-ready through treatment to produce canisters of vitrified waste. The Department is currently vitrifying liquid high-level waste at the Defense Waste Processing Facility at the Savannah River Site in South Carolina and the West Valley Demonstration Project in New York. By the end of FY 2001, approximately 1,370 canisters of high-level waste will be produced. This will complete about 7 percent of the more than 19,000 canisters of high-level waste that will be produced between FY 1996 and life-cycle completion.

   – **Mixed Low-Level Waste** – Mixed low-level waste consists of both hazardous (as defined by the Resource Conservation and Recovery Act) and radioactive (as defined by the Atomic Energy Act) components and is not

high-level or transuranic waste. The long-term goal for mixed low-level waste is to develop the necessary treatment and disposal capacity needed to dispose of the existing inventory as well as any newly generated waste. The near-term goal for mixed waste is to complete site selection for disposal facilities and optimize the treatment configuration outlined in the site treatment plans. By the end of FY 2001, more than 43,000 cubic meters of mixed low-level waste will be disposed. This will complete about 18 percent of the total volume of mixed low-level waste (approximately 234,000 cubic meters) that requires disposal between FY 1998 and life-cycle completion.

- **Transuranic Waste** – Transuranic waste is radioactive waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for a) high-level radioactive waste; b) waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or c) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61. The long-term objective is to dispose of all defense related transuranic waste at the Waste Isolation Pilot Plant (WIPP) in New Mexico. The Department initiated disposal operations at WIPP on March 26, 1999. Approximately 98 percent of DOE's transuranic waste is stored at six major sites: Los Alamos National Laboratory, Rocky Flats Environmental Technology Site, Oak Ridge National Laboratory, Hanford Site, Idaho National Engineering and Environmental Laboratory, and the Savannah River Site. By the end of FY 2001, more than 4,900 cubic meters of transuranic waste will be shipped to WIPP for disposal. This will complete about 3 percent of the total volume of transuranic waste (175,600 cubic meters) that requires disposal between FY 1998 and 2034. (The WIPP legal limit of 175,6000 cubic meters is provided as the life-cycle estimate since the expectation is that the full capacity at WIPP will be needed to dispose of EM's transuranic waste).
- **Low-Level Waste** – Low-level waste is radioactive waste that is not high-level radioactive waste, transuranic waste, spent nuclear fuel, byproduct material (as defined under the Atomic Energy Act of 1954) or naturally occurring radioactive material. The near-term and long-term goals of low-level waste management are to continue to dispose of low-level waste at a pace to eliminate currently stored low-level waste and match generation of new waste. By the end of FY 2001, a total of more than 143,000 cubic meters of low-level waste will be disposed. This will complete about 9 percent of the total volume of low-level waste (approximately 1,566,000 cubic meters) that requires disposal between FY 1998 and life-cycle completion.

5. **Quantity of nuclear material and spent nuclear fuel stabilized –** These measures track progress on the stabilization of nuclear material and spent nuclear fuel and support strategic objectives EQ1, EQ2 and EQ3. The Department must stabilize these materials and fuel (i.e., produce a safer chemical and/or physical form of the material) to reduce the level of potential risk such as exposure to radiation, contamination of people and the environment, and critical events. Stabilization means that something (i.e., processing from a liquid to a solid form, processing to remove activated waste streams, repackaging, etc.) must be done to the nuclear material so that they pose significantly less risk to workers, the public, and/or environment. The following types of nuclear material are reported in this plan under stabilization and include spent nuclear fuel which requires processing in the Savannah River canyons: kilograms bulk of plutonium residue; containers of plutonium metals/oxides; and handling units of other nuclear material in other forms. By the end of FY 2001, the Department will stabilize approximately 94,000 kilograms bulk of plutonium residue, 1,200 containers of plutonium metals/oxides, and 450 handling units of other nuclear material in other forms. This will complete approximately 85 percent of the kilograms bulk of plutonium residue, 17 percent of the plutonium metals/oxides, and 5 percent of the handling units of other nuclear material in other forms that require stabilization between FY 1998 and life-cycle completion. The number of metric tons of heavy metal of spent nuclear fuel that is moved to dry storage is also reported. By the end of FY 2001, a total of approximately 315 metric tons of heavy metal of spent nuclear fuel will be moved to dry storage. This will complete 14 percent of the total amount of spent nuclear fuel (2,215 metric tons of heavy metal) that will be moved to dry storage between FY 1998 and life-cycle completion.

6. **Technology Development and Deployment –** These measures track progress on technology development and deployment and support strategic objective EQ6. Deployment is the use of a technology or technology system toward accomplishment of one or more site-specific DOE EM program cleanup objectives as applied to the actual waste

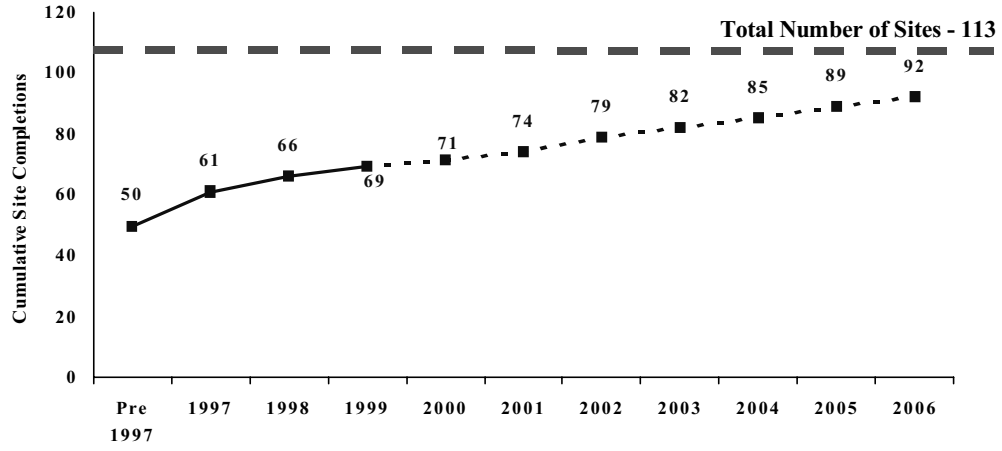
requiring management at the site. The intent of this measure is to encourage sites to deploy innovative technologies to solve cleanup problems and reduce cost.

7. **Long-Term Stewardship** – The performance goals established for long-term stewardship reflect the Department's commitment to addressing its long-term stewardship responsibilities. Long-term stewardship is required to protect human health and the environment from hazards remaining after cleanup is complete. The nature and extent of anticipated long-term stewardship activities will vary based on the amount and type of residual contamination, the anticipated future site uses, and other factors (e.g., proximity to a river and flood plain).

8. **Pollution Prevention –** These measures track progress on the waste reduced and avoided as a result of the Department's pollution prevention activities. Pollution prevention is defined as the use of materials, processes, and practices that reduce or eliminate the generation and release of pollutants, contaminants, hazardous substances, and wastes into the land, water, and air. Pollution Prevention includes practices that protect natural resources through conservation and more efficient use. Within the Department, pollution prevention includes all aspects of sources reduction as defined by the Environmental Protection Agency (EPA), and incorporates waste minimization by expanding beyond the EPA definition of pollution prevention to include recycling.

Annual Performance Goals for Environmental Management:

1. Geographic Site Completions



Performance Goal:

- *By year-end FY 2001, complete the following geographic sites increasing the total number of completed sites to 74 of the 113 geographic sites in the EM program: (FMFIA)*
  - *2 geographic sites in FY 2000 (Columbus Environmental Management Project – King Avenue Site in Ohio and General Atomics in California); and*
  - *3 geographic sites in FY 2001 (Argonne National Laboratory-West in Idaho, Grand Junction Office Site in Colorado and Monticello Remedial Action Project in Utah).*
- *Monitor field activities and participate in reviews at Savannah River Operations Office to ensure adherence to project costs and schedules. This is an FY 2000 FMFIA milestone. (FMFIA)*

FY 1999 Results: MET GOAL
EM completed three sites in FY 1999: Ames Laboratory in Iowa, Sandia National Laboratory in California, and Princeton Plasma Physics Laboratory in New Jersey.

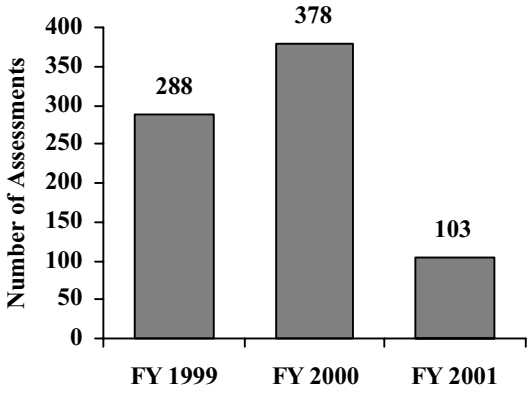
Means & Strategies for Geographic Site Completion for FY 2001:

The Department is implementing strategies to accomplish the EM program vision of completing cleanup at most of EM's remaining geographic sites by 2006. As of the beginning of FY 2000, a total of 44 geographic sites remained to be cleaned up. EM plans to complete 2 geographic sites in FY 2000 and an additional 3 geographic sites in FY 2001.

A geographic site is considered "complete" (or at its end state) when:

- 'Legacy' waste (i.e., waste produced by past nuclear weapons production activities, with the exception of high-level waste) has been disposed of in an approved manner;
- Deactivation or decommissioning of all facilities currently in the EM program has been completed, excluding any long-term surveillance and monitoring;
- All releases to the environment have been cleaned up in accordance with agreed-upon cleanup standards;
- Groundwater contamination has been contained, or long-term treatment or monitoring is in place; and
- Nuclear material and spent fuel have been stabilized and/or placed in safe long-term storage.

2a. Release Site Assessments Progress



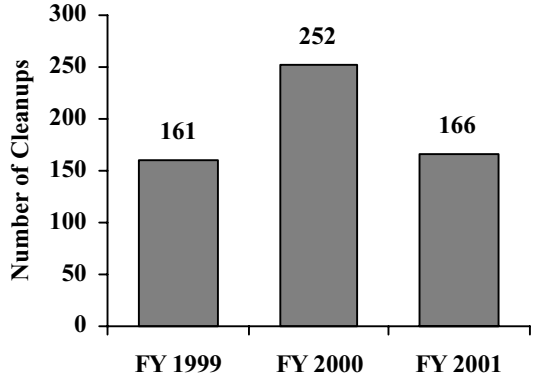
Performance Goal:

- *Complete 378 release site assessments in FY 2000 and 103 in FY 2001.*

Assessments are required to determine the extent of contamination and risk prior to beginning actual cleanup work.

FY 1999 Results: NEARLY MET GOAL
EM completed 288 of the planned 310 release site assessments.

2b. Release Site Cleanup Progress



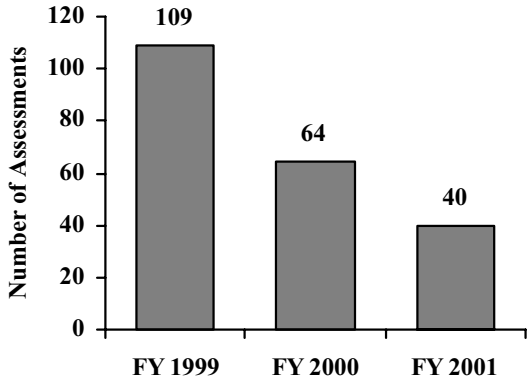
Performance Goal:

- *Complete 252 release site cleanups in FY 2000 and 166 in FY 2001, increasing the total number of release site cleanups completed to approximately 4,900 (50%) out of a total inventory of approximately 9,700 release sites.*

Release site cleanups represent the completion of physical cleanup activities (or no further action decisions).

FY 1999 Results: NEARLY MET GOAL
EM completed 161 of the planned 165 release site cleanups.

3a. Facility Decommissioning Assessment Progress



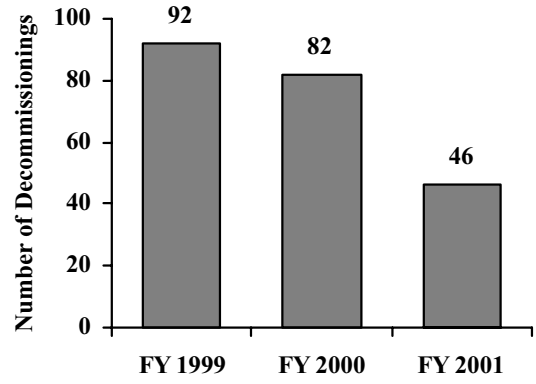
Performance Goal:

- *Complete 64 facility decommissioning assessments in FY 2000 and 40 in FY 2001.*

  Completion of facility assessments indicate that the facilities have been characterized for decommissioning.

  FY 1999 Results: NEARLY MET GOAL
  EM completed 109 of the planned 120 facility decommissioning assessments.

3b. Facility Decommissioning Progress



Performance Goal:

- *Decommission 82 facilities in FY 2000 and 46 facilities in FY 2001, increasing the total number of facilities decommissioned to more than 680 (20%) out of a total inventory of approximately 3,300 facilities that require decommissioning.*

  Facilities decommissioned represent the number of completed final safe dismantling, and removal of contamination and structures (or release of inactive facilities for reuse).
  FY 1999 Results: EXCEEDED GOAL
  EM decommissioned 92 facilities exceeding the goal of 80.

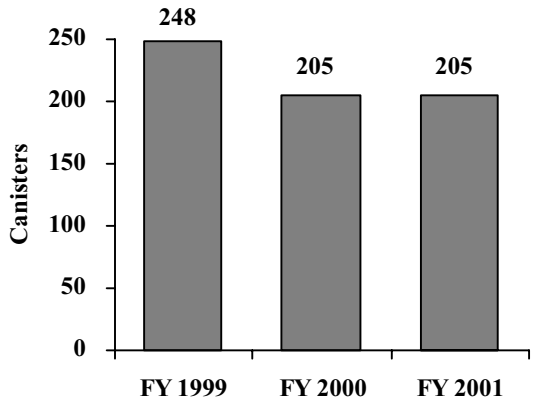
Means and Strategies for Cleanup Progress for FY 2001:

The Department will first focus on reducing any worker or public safety and health risks; then on off-site contamination; prevention of contamination migration; reduction of on-site contamination; allocation of resources to effectively maintain essential infrastructure support; funding for other essential prudent business management activities; release of facilities and land to the public for beneficial reuse where this is deemed appropriate; and finally, additional characterization efforts to reduce uncertainty at the various sites in regard to eventual cleanup approaches.

Cleanup progress is measured by completion of geographic sites where EM is responsible for remediation of contaminants and other material. Interim progress is demonstrated by cleaning up portions of the EM geographic sites, referred to as "Release Sites" and "Facilities". Cleaning up these areas ultimately leads to the completion of the entire geographic site.

The Department will continue to conduct facility surveillance and maintenance activities to ensure there is: (1) no degradation of key plant systems; (2) retention of authorized basis and configuration control; (3) maintenance of key staffing, qualifications, and training; and (4) compliance with Federal and State safety and environmental regulations.

4a. High Level Waste (HLW) Progress – Canisters Produced

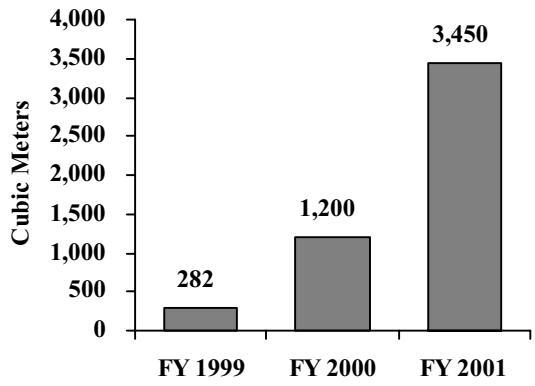


Performance Goal:

- *Produce a total of 205 canisters of HLW in both FY 2000 and FY 2001 (200 canisters at the Defense Waste Processing Facility (DWPF) at Savannah River Site and 5 canisters at West Valley Demonstration Project). This will complete about 5 percent of the total number of canisters that will be produced from FY 1998 to life-cycle completion.*

  FY 1999 Results: EXCEEDED GOAL
  The DWPF produced 236 canisters of HLW and West Valley produced 12 canisters of HLW, exceeding the goal of 215 canisters.

4b. Transuranic (TRU) Waste Progress – Shipments to WIPP



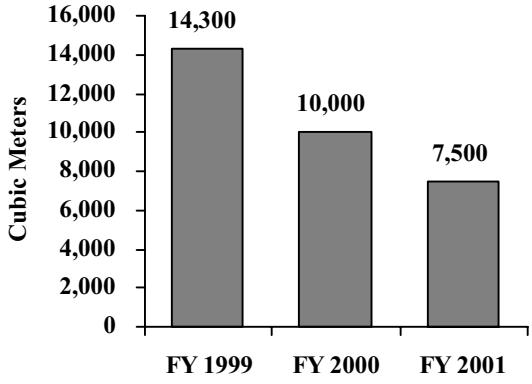
Performance Goal:

- *Ship 1,200 cubic meters of TRU waste to WIPP in FY 2000 and 3,450 cubic meters in FY 2001. By the end of FY 2001, a total of more than 4,900 cubic meters of TRU waste will be shipped to WIPP for disposal. This will complete about 3 percent of the total volume of TRU waste that requires disposal between FY 1998 and 2034.*

- *Implement the permit requirements in parallel with the court challenge and begin Mixed TRU waste disposal operations at WIPP in FY 2000. (FMFIA)*

  FY 1999 Results: NEARLY MET GOAL
  Approximately 280 cubic meters of TRU waste were shipped to WIPP for disposal. The plan was to prepare 700 cubic meters and and ship 100 to 200 cubic meters. Delayed opening of WIPP postponed the preparation of additional waste for disposal.

4c. Mixed Low-Level Waste (MLLW) Disposal Progress

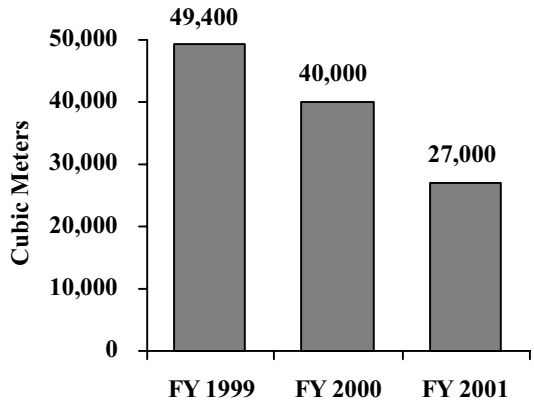


Performance Goal:

- *Dispose of approximately 10,000 cubic meters of MLLW in FY 2000 and 7,500 cubic meters in FY 2001. By the end of FY 2001, a total of more than 43,000 cubic meters of MLLW will be disposed. This will complete about 18 percent of the total volume of MLLW that requires disposal between FY 1998 and life-cycle completion.*

FY 1999 Results: MET GOAL

4d. Low-Level Waste (LLW) Disposal Progress



Performance Goal:

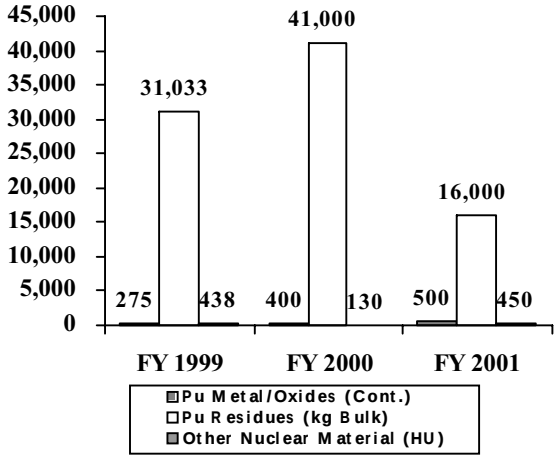
- *Dispose of approximately 40,000 cubic meters of LLW in FY 2000 and 27,000 cubic meters in FY 2001. By the end of FY 2001, a total of more than 143,000 cubic meters of low-level waste will be disposed. This will complete about 9 percent of the total volume of LLW that requires disposal between FY 1998 and life-cycle completion.*

FY 1999 Results: BELOW EXPECTATION
EM disposed of more than 49,400 cubic meters of LLW. Contributing factors were: Lack of agreement with the State of Nevada on cleanup standards; and lack of NEPA authority to ship stored waste at Oak Ridge.

Means & Strategies for Waste Management for FY 2001:

Waste management programs will continue to dispose of DOE low-level and mixed radioactive waste primarily at its current disposal facilities although the Department, with stakeholder participation, will consider alternative disposition paths that are more cost-effective while still protective of the public and the environment. The Department will continue to ship transuranic waste to the Waste Isolation Pilot Plant for disposal, and continue vitrification operations to produce disposal ready high-level waste canisters. Operations will minimize generation of new waste, re-use, and recycle where possible to accomplish pollution prevention goals. In addition, the Department will continue to re-engineer waste management practices and strive to have newly generated wastes disposed as generated. Waste management activities will ensure safe handling and storage of waste in addition to maximizing isolation to reduce risks. The Department will integrate waste management programs across the DOE complex by consolidating waste storage, treatment and disposal facilities to maximize efficiency, reduce environmental risks and costs of operations. Efforts will continue to improve the quality and value of information on the generation, inventory, management, and transportation of DOE waste.

5a. Nuclear Material Stabilization (Plutonium) Progress



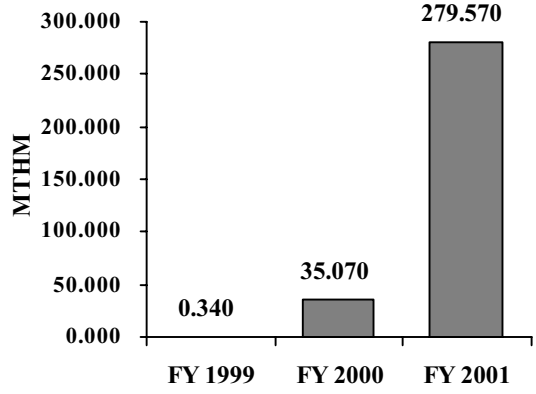
Performance Goal:

- *In FY 2000 stabilize 400 containers of plutonium metals/oxides, 41,000 kilograms bulk of plutonium residues, and 130 handling units of other nuclear material in other forms.*
- *In FY 2001, stabilize 500 containers of plutonium metals/oxides, 16,000 kilograms bulk of plutonium residues, and 450 handling units of other nuclear material in other forms.*

By the end of FY 2001, this will complete about 17 percent of the containers of plutonium metals/oxides, 85 percent of the kilograms bulk of plutonium residues, and 5 percent of the handling units of other nuclear material in other forms that require stabilization between FY 1998 and life-cycle completion. Stabilization encompasses activities where the intent is to convert nuclear material to a stable form suitable for either safe interim or long-term storage.

FY 1999 Results: NEARLY MET GOAL
EM stabilized 31,033 kilograms bulk of plutonium residues, 16 liters of plutonium solution, 275 containers of plutonium metals/oxides, and 438 handling units of other nuclear material in other forms. Seismic issue and equipment malfunctions of the stabilization system at Richland contributed to the shortfall.

5b. Spent Nuclear Fuel (SNF) Stabilization Progress



Performance Goal:

- *Move to dry storage 35.070 metric tons of heavy metal (MTHM) of SNF in FY 2000 and 279.57 MTHM in FY 2001. This will complete 14 percent of the MTHM of SNF that will be moved to dry storage between FY 1998 and life-cycle completion.*

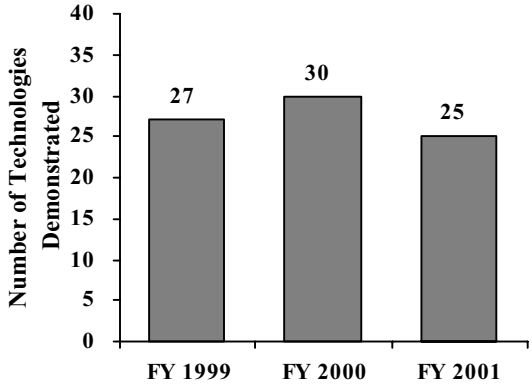
Moving SNF to dry storage is an interim step prior to disposal.

FY 1999 Results: BELOW EXPECTATION
In FY 1999, 0.34 MTHM of SNF was stabilized. This was a result of a criticality issue discovered in the de-watering system operation that precluded processing Three Mile Island spent nuclear fuel canisters.

Means and Strategies for Nuclear Material and SNF Stabilization for FY 2001:

The Department will work closely with regulators, the Defense Nuclear Facilities Safety Board (DNFSB) and others to achieve the objective of reducing worker, public, and environmental risks. Progress is measured by the amount of nuclear material stabilized and made disposition ready. Nuclear material will be stabilized at the F- and H-Areas at Savannah River, at the Plutonium Finishing Plant at Richland, and in several facilities at the Rocky Flats Environmental Technology Site. Spent nuclear fuel from the West Valley Demonstration Project and Three Mile Island will be placed in dry storage at the Idaho National Engineering and Environmental Laboratory. These activities have been prioritized so that the most serious risks are addressed first.

6a. Technology Demonstration Progress

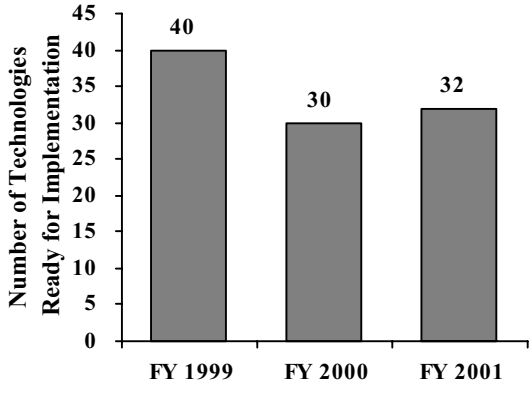


Performance Goal:

- *Demonstrate 30 innovative technologies in FY 2000 and 25 in FY 2001, that meet the performance-specification based needs as identified by the Site Technology Coordination Groups.*

FY 1999 Results: EXCEEDED GOAL.
27 full scale demonstrations were completed exceeding the goal of 22.

6b. Technologies Ready for Implementation Progress

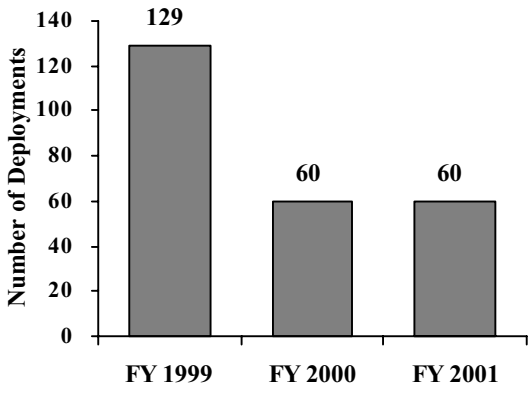


Performance Goal:

- *Make 30 innovative technologies ready for implementation in FY 2000 and 32 in FY 2001, with full cost and engineering performance data.*

FY 1999 Results: MET GOAL.

6c. Technology Deployment Progress:



Performance Goal:

- *Deploy 60 innovative technologies in FY 2000 and 60 in FY 2001.*

Deployment is the use of a technology or technology system toward accomplishment of one or more site-specific DOE EM program cleanup objectives as applied to the actual waste requiring management at the site.

FY 1999 Results: EXCEEDED GOAL
129 innovative technology deployments were achieved exceeding the goal of 60.

Means and Strategies for Technology Development and Deployment for FY 2001:

Science and Technology provides environmental cleanup technologies and technical solutions on a schedule that enables achieving cleanup and bringing into compliance the majority of the DOE complex by 2006. Investments in science and technology will continue to be planned and managed in an interactive, coordinated, participatory relationship with EM cleanup project managers and stakeholders. The Science and Technology work scope priorities will be established through a multi-attribute decision model that prioritizes EM's technology needs and drives investments for science and technology. No activity will be funded unless it: addresses one of EM's highest priority needs; reduces the cost of EM's costliest cleanup projects; reduces EM's technological risk; accelerates and increases technology deployment by bridging the gap between development and use; or contributes to a targeted scientific research agenda. EM's technology development efforts in FY 2001 will concentrate on five major Focus Areas: (1) Mixed Waste; (2) Radioactive Tank Waste; (3) Subsurface Contaminants; (4) Deactivation and Decommissioning and (5) Nuclear Materials (formerly Plutonium Stabilization).

7. Annual Performance Goals for Long Term Stewardship:

Over the next several years the Department will, in conjunction with stakeholders, develop comprehensive land use plans for DOE sites that provide information on alternative uses, ownership, environmental requirements, and implementation schedules and ensure environmental remedies remain protective.

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Release a background report on Long-Term Stewardship ("Moving from Cleanup to Stewardship") by the second quarter of FY 1999. This report was one of the commitments published in the June 1998 Paths to Closure document. (EQ7-1)* (MET GOAL) • *Begin the formal study on long-term stewardship pursuant to the 1998 Programmatic Environmental Impact Statement (PEIS) settlement agreement, which requires a public scoping and comment process portion of the study. (EQ7-1)* (MET GOAL)	• *By June 2000, produce the draft study on long-term stewardship pursuant to the 1998 PEIS settlement agreement. (EQ7-2)* • *Continue coordination with the National Academy of Sciences/ National Research Council on the release of their analyses on long-term site disposition.. (EQ7-2)*	• *Submit a report to Congress by October 1, 2000, which documents existing and anticipated long-term stewardship responsibilities for DOE sites or portions of DOE sites where cleanup projects are projected to be complete by calendar year-end 2006. (EQ1, EQ2, EQ3)* • *Identify funding requirements for long-term stewardship as distinct baselines at individual sites. (EQ1, EQ2, EQ3)* • *Produce the final study on long-term stewardship pursuant to the 1998 PEIS settlement agreement. (EQ1, EQ2, EQ3)*

Means and Strategies for Long-Term Stewardship for FY 2001:

In the near-term, DOE will improve its management control of long-term stewardship by identifying ongoing activities and funding support for long-term stewardship. Over the next several years the Department will, in conjunction with stakeholders, develop comprehensive land use plans for DOE sites that provide information on alternative uses, ownership, environmental requirements, and implementation schedules and ensure environmental remedies remain protective.

The Department will continue to work with state and federal regulatory agencies, as well as Indian tribes, local governments and community organizations on formulating environmental cleanup remedies that consider future land use. The Department will seek to encourage beneficial reuse of land by coordinating with the Environmental Protection Agency (EPA) brown fields initiative and sharing lessons learned with the Department of Defense (DOD) Baseline Realignment and Closure (BRAC) process.

The Department will also implement a framework for its long-term stewardship program, including resources for site personnel on data retention, institutional controls and remedy selection consideration.

8. Annual Performance Goals for Pollution Prevention:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Reduce routine waste generation by 45 percent based on 1993 waste generation rates. (Data for reporting will be available at the end of calendar year 1999). (EQ4-1)* (UNSPECIFIED)	• *Reduce annual routine waste generation by 50% by December 1999, based on 1993 waste generation rates. (EQ4-1)*	• *Conduct pollution prevention projects/practices to reduce waste from site cleanup and stabilization activities by 10 percent as compared to the annual planned baseline volumes.*
• *Reduce by 10 percent the waste resulting from the execution of cleanup, stabilization and decommissioning activities from the annual planned baseline volumes. (EQ4-1)* (EXCEEDED GOAL)	• *Conduct pollution prevention projects/practices to reduce waste from site cleanup and stabilization activities by 10% as compared to the annual planned baseline volumes and report the results achieved through December 1999 by April 2000. (EQ4-1)*	
• *Implement projects that reduce/avoid the generation of radioactive, mixed, and hazardous wastes by 2,000 cubic meters. (EQ4-1)* (EXCEEDED GOAL)	• *Prepare pollution prevention plans outlining specific strategies to meet the new Departmental P^2E^2 goals for 30 DOE sites. (EQ4-1)*	

Means and Strategies for Pollution Prevention for FY 2001:

The mission of the Department's Pollution Prevention program are to: (1) comply with waste minimization, pollution prevention, affirmative procurement, and recycling requirements under Federal/State statutes, Executive Orders, and DOE Orders; and (2) reduce waste generated through implementation of cost effective pollution prevention projects. The Department will apply pollution prevention techniques such as material substitution, process modification, segregation/reuse, and recycling, where they would not increase the life cycle cost of the cleanup/ stabilization/waste management projects.

The Department issued aggressive pollution prevention goals for FY 2005 and FY 2010 on November 16, 1999. These goals are to reduce generation of hazardous, radioactive and sanitary wastes by at least 80 percent by 2010 or earlier, using 1993 as a baseline, from its routine operations and achieve a 10 percent reduction annually for wastes from cleanup and stabilization activities. Each site will submit pollution prevention goals by the end of FY 2000. Headquarters/Operations/Field Offices will be held accountable for implementing site Pollution Prevention Plans. Through an expanded field assessment program, the Department will measure success through continuous improvement and trending toward zero waste generation and emissions.

The measures and performance goals provided in the table above are applicable to all Departmental operations. EM will compile and report Department-wide progress in meeting these performance goals.

Collaboration Activities

- **Regulatory Compliance.** DOE negotiates and signs environmental compliance and cleanup agreements with the Environmental Protection Agency (EPA) and or the state regulatory agencies, as appropriate. Key parameters such as required cleanup levels must be negotiated with the appropriate regulators and stakeholders for each site.

- **Developing Disposal Options for Mixed Low-Level and Low-Level Waste.** The Department has conducted numerous meetings with state, tribal, and stakeholder groups to discuss disposal options for mixed low-level waste and low-level waste prior to making final decisions.

- **Long-Term Stewardship.** The Department will maintain a presence at most sites to ensure that the reduction in risk to human health and the environment is maintained. The extent of long-term stewardship required at a site will reflect the end state developed in consultation among DOE and other representatives of the Administration, Congress, Tribal Nations, representatives of regulatory agencies, state and local authorities and other stakeholders.

- **Defense Nuclear Facilities Safety Board (DNFSB) –** EM works with the DNFSB to implement recommendations relating to activities at the Department's defense nuclear facilities affecting nuclear health and safety.

- **Environmental Management Advisory Board (EMAB) –** EM solicits advice and guidance from the EMAB on a wide variety of topics relating to the management of the EM program. The EMAB's membership consists of state and local government representatives, technical experts, and stakeholders.

External Factors Affecting Performance

- **Funding.** The site cleanup goals are based on stable funding. Low funding could prevent site cleanup goals from being achieved as currently defined. If this should occur, DOE would work closely with regulators and other stakeholders to address compliance requirements and other high priority activities at sites and to establish appropriate priorities.

- **Cleanup Standards.** Decisions made regarding the extent of cleanup and cleanup levels at EM's contaminated sites impact the program's cost, schedule, and scope (i.e., it costs more and takes longer to cleanup a site for residential use than to clean it up for industrial development).

- **Commercially Available Options for Waste Disposal.** Accomplishment of the environmental cleanup objectives assumes the continued availability of commercial options for mixed low-level waste and low-level waste disposal.

- **Technologically Available Solutions.** The development and deployment of innovative technologies will help meet national needs for regulatory compliance, lower life-cycle costs, and reduce risk to the environment and public health.

Validation and Verification:

Data Sources:	Data are based on an aggregation of Field-generated "actual" and planned performance results for EM's projects. Performance targets were established based on the FY 2000 Appropriation and the FY 2001 Request.
Baselines:	The Operations/Field Offices' baselines are reported during the annual update of the Corporate Database. Planning baselines reflect cost, schedule, and scope from FY 1997 through life-cycle completion. (Life-cycle quantities by PBS are available from either FY 1997 (i.e., release sites, facilities, and canisters of high-level waste produced) or FY 1998 (i.e., waste, nuclear material, and spent nuclear fuel) through 2070. Because FY 1997 was the year that EM transitioned to Project Baseline Summaries (PBSs), quantity information by *project* for FY 1997 is not available for each corporate performance measure. Where reliable historical information is available, pre-FY 1997 performance measure quantity data are provided at a summary level only (i.e., not at the project detail level).

Frequency:	EM collects mid-year and year-end actual results by PBS for the majority of the corporate performance measures. Milestone data are tracked on a monthly basis.
Data Storage:	Data are entered into the EM Integrated Planning, Accountability and Budgeting System-Information System (IPABS-IS) and are maintained in the EM Corporate Database.
Verification:	The Operations/Field Office project managers and the EM Headquarters Site Leads verify and formally approve the Project Baseline Summary (PBS) data. Discussions between Headquarters and the Field occur on a continuing basis to ensure the data reported for both internal management reviews and to meet external requirements are accurate and complete. There are also a limited number of built-in, automated checks in IPABS-IS that flag input errors. EM Headquarters distributes data quality reports to the Field and to technical and programmatic experts within Headquarters who are responsible for reviewing and verifying the data submittal. EM also analyzes and verifies performance results as part of the Headquarters/ Field Management Review process.

Planned Program Evaluation

The Department evaluates progress and results against the EM program's performance during monthly Headquarters/ Field Management Reviews. The EM corporate performance measures data are aggregated by Project Baseline Summary (PBS) to the site level, to the Operations/Field Office level, and to a total EM level, as applicable, to provide a complex-wide assessment of program results. At each level of the organization, performance goals are tracked, evaluated, and interpreted to determine corrective actions and to assess areas requiring improvement.

DOE Decision Unit: Civilian Radioactive Waste Management

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
050 Atomic Energy Defense Activities				
Defense Nuclear Waste Disposal	Defense Nuclear Waste Disposal	RW	112	112
270 Energy Supply				
Nuclear Waste Fund	Nuclear Waste Fund	RW	236	326
Total		RW	347	438

Program Decision Unit Description:

The Office of Civilian Radioactive Waste Management (RW) implements the Federal policy for permanent disposal of high-level radioactive waste and spent nuclear fuel, in order to protect the public health and the environment. The Department has made substantial progress in characterizing Yucca Mountain, Nevada, to determine its suitability as a geologic repository site for these wastes. A viability assessment drawing on 15 years of study was completed in 1998. Based on the viability assessment, the Department believes that Yucca Mountain remains a promising site for a geologic repository and that work should proceed toward a decision in 2001 on whether to recommend the site to the President. A draft environmental impact statement was published for public comment in 1999. If the site is recommended for development as the repository site, a final environmental impact statement will accompany the site recommendation.

Under current schedules, the work to support a Secretarial decision on whether to recommend the site to the President will be completed in 2001. This decision will consider the views of the State of Nevada, affected Indian tribes, and the Nuclear Regulatory Commission, as required by the Nuclear Waste Policy Act. In turn, the President will decide whether to recommend the site to Congress. If Congress agrees with the President's recommendation and the site is designated for continued development, the Department could submit a license application to the NRC in 2002 for construction authorization. Under current plans, emplacement of waste in the repository would begin in 2010. However, the Department's schedule remains critically dependent on adequate program funding. Any additional reductions will impact selected critical near-term milestones for the Yucca Mountain Site Characterization Project, and possibly the planned 2010 waste emplacement date. In addition to budgetary constraints, the Department continues to face substantial political opposition and legal challenges in implementing its waste disposal mandate under the Nuclear Waste Policy Act, as amended.

Annual performance goals for Radioactive Waste Management:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Publish a draft Environmental Impact Statement (EIS). The Nuclear Waste Policy Act requires a Final EIS to accompany the site recommendation. (EQ5-1)* (MET GOAL) • *Complete repository and waste package design inputs for use in total system performance assessment for the repository license application. (EQ5-1)* (MET GOAL) • *Complete peer review of the total system performance assessment to provide formal, independent evaluation and critique. (EQ5-1)* (MET GOAL)	• *Complete public hearings on the Draft Environmental Impact Statement which was published in August 1999. (EQ5-1)* • *Select the reference design for site recommendation and license application. (EQ5-1)* • *Select the reference natural systems models for site recommendation and license application. (EQ5-1)*	• *Issue a Final Environmental Impact Statement as required by the Nuclear Waste Policy Act. (EQ4/FMFIA)* • *Complete a Yucca Mountain Site Recommendation Consideration Report that will provide the technical basis for a Site Recommendation. (EQ4)* • *Conduct public hearings on the Yucca Mountain Site Recommendation Consideration Report. (EQ4)* • *Finalize a Site Recommendation Statement for the Secretary of Energy to submit to the President, and then to the Congress. (EQ4/FMFIA)*

Means and Strategies for FY2001:

The Department will focus the Civilian Radioactive Waste Management Program on the activities necessary to determine the suitability of the Yucca Mountain site as a repository, develop the documentation needed for a Secretarial decision on the Site Recommendation to the President in FY 2001, and on other activities associated with the Federal government's waste acceptance obligations.

Collaboration Activities:

The Department is engaged in continued formal and informal interactions with the Nuclear Regulatory Commission, the Environmental Protection Agency, and the Nuclear Waste Technical Review Board. In addition, the Civilian Radioactive Waste Management Program collaborates on technical, policy, and operational issues with the State of Nevada and local communities with the State.

External Factors Affecting Performance:

The Program's indicated performance goals and associated schedules depend heavily on funding continuity and sufficiency.

Validation and Verification:

Data Sources:	Internal management reviews and external peer reviews supplement technical reports.
Baselines:	Program technical, cost and schedule baselines have been established and are maintained thru a formal change control process.
Frequency:	Program milestones are tracked on a continuous basis and formal reviews of Program activities are held bimonthly.
Data Storage:	Data are maintained in published technical reports, on CD-ROM, and on publicly-accessible Internet web sites.
Verification:	Internal reviews and external oversight activities and audits provide thorough verification of Program accomplishments and technical findings.

Planned Program Evaluations:

Complementing external reviews, the Office of Civilian Radioactive Waste Management conducts bimonthly, in-depth reviews of Program activities, schedules, and expenditures. The Director and all key managers and supervisors participate to ensure that activities are on-track and within budget.

SCIENCE

Research conducted through the programs of the Office of Science (SC) have provided the underpinning for the successful accomplishment of the Department's mission (and that of its predecessor agencies) for over 40 years. As one of the "core" missions of the Department, the advancement of fundamental science, the maintenance of large-scale scientific facilities, and the training of the next generation of scientists is extremely important and directly impacts the success of each of the Department's mission areas.

The Office of Science (SC) conducts research at universities, national laboratories, and private research facilities in the areas of materials and chemical sciences, engineering and geosciences, energy biosciences, magnetic fusion energy, health and environmental research, high energy and nuclear physics, and computational sciences. The Department's cadre of large-scale scientific facilities support the United States' position as the worldwide leader in science. The broad variety of world-class facilities such as our large accelerators, experimental reactors and detectors, high-precision instruments, synchrotron, supercomputers, high-capacity networks, and high resolution microscopes provide the scientific base to support the Nation's national security and energy security interests.

The expansion of the scientific knowledge base, in addition to the resultant technological advances, justify the Nation's investment in the science programs at the Department of Energy. These programs provide the knowledge, techniques, and instruments that are used in the U. S. programs in national security, as well as, electricity generation, therapeutic and diagnostic medical applications, and a host of industrial applications that contribute to our national prosperity.

SCIENCE GOAL

Produce remarkable insights into our physical and biological world and the nature of matter and energy, advancing the basic research and instruments of science that are the foundations for DOE's applied missions and a base for U.S. technology innovation.

The Science goal is supported by the following four strategic objectives:

SC1: ***Fuel the future with science for clean and affordable energy.***

SC2: ***Protect our living planet with scientific understanding of energy impacts on people and the biosphere.***

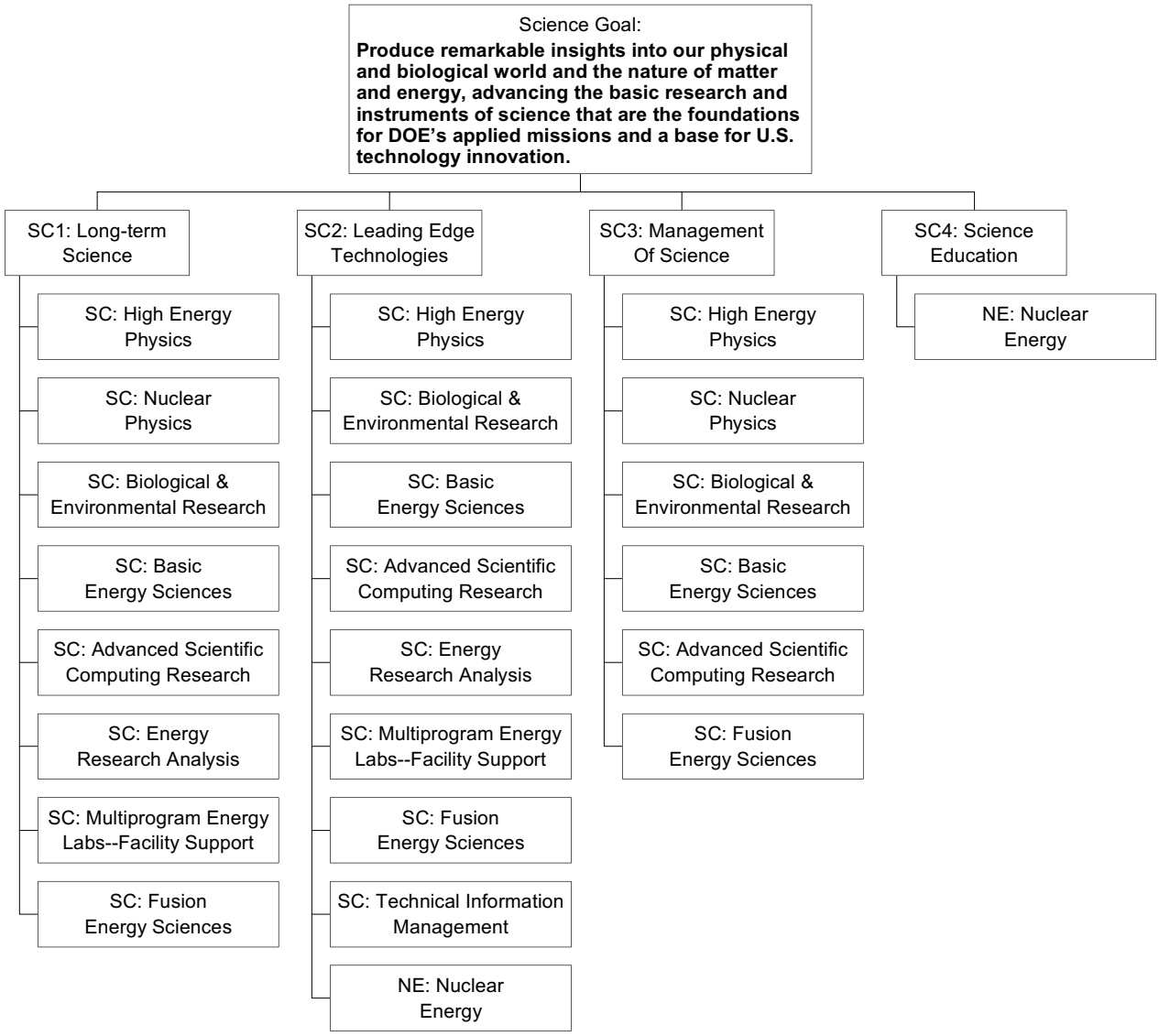
SC3: ***Explore matter and energy as elementary building blocks from atoms to life.***

SC4: ***Provide the extraordinary tools, scientific workforce, and infrastructure that assure our Nation's leadership in the physical, biological, and computational sciences and in multidisciplinary research.***

The following table maps the Presidential Budget's Program and Financing (P&F) accounts and program activities to the Department of Energy's offices and decision units. The alignment includes aggregation, disaggregation, and consolidation. The chart that follows this one shows how the decision units support the Department's Strategic Plan objectives for this business line.

Presidential Budget Program and Financing (P&F) Accounts and Program Activities		FY 2001 Budget Request ($M)	DOE Office	DOE Decision Units
250 Energy Programs				
Science				
	High energy physics	715	SC	High Energy Physics
	Nuclear physics	370	SC	Nuclear Physics
	Biological and environmental research	445	SC	Biological & Environmental Research
	Basic energy sciences	1,016	SC	Basic Energy Sciences
	Office of Advanced Scientific Computing Research	182	SC	Office of Advanced Scientific Computing Research
	Energy research analyses	1	SC	Energy Research Analysis
	Multiprogram energy labs--facility support	34	SC	Multiprogram energy labs--facility support
	Fusion energy sciences	247	SC	Fusion Energy Sciences
	Program direction	141	SC	Program Direction
270 Energy Supply				
	Technical Information Management	9	SC	Technical Information Management
TOTAL - Science		**3,160**		

Science goal is supported by four strategic objectives. Each strategic objective is being pursued through long-term strategies. The Decision Units fund work on those long-term strategies and the annual performance goals are discussed with the Decision Units on the following pages. DOE Decision Units provide a means to link program resources at lower levels of aggregation to performance goals. While this approach allows us to clearly link annual performance with annual budget resources, we are also keeping our strategic plan goals and objectives in focus by annotating each performance goal with the strategic objective it supports.



DOE Decision Unit: High Energy Physics & Nuclear Physics

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
High Energy Physics	High Energy Physics	SC	704	715
Nuclear Physics	Nuclear Physics	SC	356	370
Total	SC	SC	1,060	1,085

Introduction of the Decision Unit:

High Energy and Nuclear Physics programs support basic research that provides new insights into the nature of energy and matter and operates large world-class scientific facilities for the Nation. High Energy and Nuclear Physics research is conducted by over 3,000 researchers and over 1,000 graduate students from over 100 universities and the National Laboratories.

Annual Performance Plan:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
High Energy Physics: • *Continue collaborative efforts with NASA on space science and exploration. (ST1-4)* (MET GOAL) • *Deliver on the 1999 US/DOE commitments to the international Large Hadron Collider project. (ST1-2)* (MET GOAL) Nuclear Physics: • *Complete construction and begin operation of the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory. (ST1-2)* (MET GOAL)	• *Move the newly upgraded D-Zero and CDF detectors at Fermilab into position in the Main Injector tunnel and begin commissioning in the third quarter of the fiscal year. (SC1-2)* • *Further the progress on achieving luminosity and operational efficiency for the Tevtron at Fermilab in its new mode of operation with the recently completed Main Injector. (SC1-2)* • *Operate the B-factory at the Stanford Linear Accelerator Center, the Main Injector for the Tevatron at Fermilab, the Thomas Jefferson National Accelerator Facility, and the Relativistic Heavy Ion Collider at Brookhaven National Laboratory, and deliver on the FY 2000 U.S./DOE commitments to the international Large Hadron Collider project. (SC1-2)* • *Continue collaborative efforts with NASA on space science and exploration. (SC1-4)*	• *Make progress on the Neutrinos at the Main Injector project as measured by accomplishment of scheduled milestones as detailed in the benchmark plan. (SC1)* • *Meet on time and within budget the scheduled U. S. DOE commitments to the international Large Hadron Collider project as reflected in the latest international agreement and corresponding plan. (SC1)* • *High Energy Physics plans and research will be recognized as outstanding by expert advisory committees such as HEPAP and through other rigorous peer review. Additionally, the scientific results will be recognized through the awards received by its researchers and by the broader scientific community. (SC1)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
Nuclear Physics: • *Complete construction and begin operation of the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory. (ST1-2)* (MET GOAL)	• *Advance knowledge from experiments at the Relativistic Heavy Ion Collider to see possible evidence of the predicted quark-gluon plasma; a high temperature, high density state of nuclear matter that may have existed a millionth of a second after the "Big Bang". (SC1-2)*	• *Measure the progress and success of the Nuclear Physics program in responding to priorities and recommendations contained within the long range plan of the DOE/NSF Nuclear Science Advisory Committee (NSAC) as measures by NSAC's evaluation letter to the Nuclear Physics program. (SC1)* • *Complete fabrication of the BLAST detector at MIT/Bates in accordance with the project milestones. (SC1)*

Means and Strategies for FY2001:

The High Energy and Nuclear Physics Program will support innovative, peer-reviewed scientific research to advance knowledge and provide insights into the nature of energy and matter. This program researches the fundamental forces of the natural world that hold the nucleus of the atom together, and determine the detailed structure and behavior of atomic nuclei. The Program also builds and supports the forefront scientific facilities and instruments necessary to carry out that research. All research projects undergo regular peer review and merit evaluation based on procedures set down in 10 CFR 605 for the extramural grant program and under a similar modified process for the laboratory programs and scientific user facilities, and all new projects will be selected by peer review and merit evaluation.

The High Energy and Nuclear Physics Program will manage its national scientific user facilities to serve and collaborate with researchers from universities, national laboratories, Federal agencies, industrial laboratories, and foreign institutions thus enabling the acquisition of new scientific knowledge. The program also supports work at a number of foreign accelerator facilities. The national scientific user facilities include the new Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory, the Thomas Jefferson National Accelerator Facility (Jefferson Lab), and four smaller accelerator laboratories. The Program also supports other non-accelerator facilities such as the new Sudbury Neutrino Observatory (SNO), a large neutrino detector located 7000 feet below the surface of the earth in Sudbury, Ontario, Canada. The Program formally peer reviews its scientific user facilities to assess the scientific output, user satisfaction, and the overall cost-effectiveness of each facility's operations and ability to deliver the most advanced scientific capability to its user community.

Collaboration Activities:

The Nuclear Physics Program is closely coordinated with the research activities of the National Science Foundation. The major scientific facilities required by NSF scientists are usually the DOE facilities. NSF often supports the fabrication of major research equipment at DOE user facilities.

The HEP Program collaborates with researchers from many countries. Large numbers of foreign scientists, who also provide monetary and equipment support, heavily utilize Nuclear and High Energy Physics user facilities, including CDF and D-Zero at Fermilab and the B-factory at SLAC. The Program also promotes the transfer of the results of its basic research to a broad set of technologies involving advanced materials, national defense, medicine, space science and exploration, and industrial processes. Nuclear Physics user facilities are often utilized by other Federal agencies (e.g., NASA) and industry to carry out important studies of the effects of particle beams (radiation) in a variety of materials and for diagnostic purposes. The involved industry or Federal agency supports such studies. Hence, Nuclear Physics has extensive spin-off activities

with other organizations. The Program formally reviews its scientific facilities annually to assess the scientific output, user satisfaction, future plans, and the overall cost-effectiveness of each facility's operations and ability to perform forefront scientific research.

External Factors Affecting Performance:

External factors in addition to budgetary constraints that affect the level of performance on these measures include (1) changing mission needs as described by the DOE and the Office of Science (SC) mission statements and strategic plans; (2) scientific opportunities as determined, in part, by proposal pressure, scientific workshops, and Long Range Plans; (3) the results of external program reviews and international benchmarking activities of entire fields or subfields such as those performed by the National Academy of Sciences; (4) program balance and relevance, including considerations of activities funded by non-Nuclear Physics Program sources; and (5) strategic and programmatic decisions made by non-DOE funded domestic research activities and by major international research centers.

Validation and Verification:

Data Sources:	Planning and operations documents and agreements such as MOUs and research facility Program Advisory Committee reports. Annual reports of facility performance, experimental and research proposals, and laboratory Program Advisory committee reports are reported to headquarters. Project Management Plans, external peer reviewer comments, published scientific papers and Cost, Scope and Schedule reviews
Baselines:	Baselines and timelines that contain the milestones, rate of activity, schedules, etc. of facility upgrades and projects identified in the FY 2001 budget request and project planning documents.
Frequency:	The Nuclear Physics Program conducts a formalized peer review process for activities at the DOE laboratories and peer reviews grant applications as described in 10 CFR 605 on a regular basis - at least once every 3 years. The HEP projects are reviewed on a six month basis; accelerator facilities are reviewed on an annual basis; university grants are reviewed at inception and periodically thereafter, and HEPAP subpanels are convened on a 2-4 year basis to examine overall progress and direction of the field.
Data Storage:	These documents reside at headquarters, operations offices, and at each facility.
Verification:	Broad program reviews are conducted by the HEP program and the HEP Advisory Panel as well as the Nuclear Physics Program and the DOE/NSF Nuclear Science Advisory Committee on an ongoing basis.

DOE Decision Unit: Biological and Environmental Research

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Biological and Environmental Research	-	SC	426	445

Introduction of the Decision Unit:

The mission of the BER program is to develop the knowledge needed to identify, understand, and anticipate the long-term health and environmental consequences of energy production, development, and use.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Complete sequencing of 30 million subunits and draft sequence of 30 million additional subunits of human DNA for submission to publicly accessible databases. (ST1-1)* (NEARLY MET GOAL) • *Determine 70 percent of the DNA sequence of 10 additional microbes with potential use in waste cleanup or energy production. (ST1-4)* (EXCEEDED GOAL) • *Initiate a new joint Biological and Environmental Research-Basic Energy Sciences program in fundamental science that will underpin new opportunities and technologies in carbon capture. (ST1-4)* (EXCEEDED GOAL)	• *Complete the sequencing of 50 million subunits of human DNA to submit to publicly accessible databases in FY 2000. (SC1-1)* • *Proceed on the development of the next generation coupled ocean-atmosphere climate model, leading to better information for assessing climate change and variability at regional, rather than global scales. This next generation model will change grid size from the current 300-500 kilometers on a side to less than 200 kilometers on a side (SC1-4)* • *Complete the genetic sequencing of over 10 additional microbes with significant potential for waste cleanup and energy production. (SC1-4)*	• *By the end of FY 2001, the DOE Joint Genome Institute (JGI) will complete the sequencing and submission to public databases of 100 million finished and 250 million high quality draft base pairs of DNA, including both human and mouse. (SC1)* • *Complete the genetic sequencing of at least two additional microbes that produce methane or hydrogen from carbonaceous sources or that could be used to sequester carbon. (SC1)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Discover new biological structures with more than 60 percent of the new biological structures published in the peer-reviewed literature resulting from data generated as part of the structural biology synchrotron user station program. (ST1-5)* (MET GOAL) • *Conduct, with at least 75 patients, Boron Neutron Capture Therapy (BNCT) Research Phase I/II clinical trials at reactor sources with neutrons. (ST1-5)* (MET GOAL) • *Complete the initial SC/EM Pilot Collaborative Research Program and, in cooperation with EM, initiate development of the most promising cleanup technologies arising from these projects. (ST2-2)* (BELOW EXPECTATION)	• *Develop and implement, in cooperation with Basic Energy Sciences, a comprehensive program within the Climate Change Technology Initiative where the focus areas are those that promise the maximum impact in the area of carbon management in addition to supporting fundamental research that address other diverse aspects of the problem. (SC1-4)* • *Determine the molecular structures of proteins with more than 60 percent of the new structures that are published in the peer reviewed literature resulting from data generated at synchrotron user stations by BER structural biology program. (SC1-5)* • *In cooperation with NASA, NSF, USDA/Forest Service, and the Smithsonian Institution, provide quantitative data on the annual exchange of carbon dioxide between the atmosphere and terrestrial ecosystem from 25 AmeriFlux sites representing major types of ecosystem and land uses in North and Central America. Provide data on environmental factors, such as climate variation, on the net sequestration or release of carbon dioxide and the role of biophysical processes controlling the net exchange. (SC1-6)* • *Continue the Natural and Accelerated Bioremediation Research (NABIR) program support fundamental research in environmental and molecular sciences that will underpin the development of bioremediation for containing hazardous waste and cleaning DOE sites. Site characterization of the first NABIR Field Research Center will proceed, and activities necessary to enable research sample distribution to investigators will commence. (SC2-1)*	• *Five Intensive Operations Periods (IOPs) will be conducted on schedule at the Atmospheric Radiation Measurement (ARM) Southern Plains site. Data will be obtained from second station on the North Slope of Alaska. The third station in the Tropical Western Pacific on Christmas Island will become operational on schedule and within budget in accordance with program plan. (SC3)* • *The first Field Research Center (FRC) for the Natural and Accelerated Bioremediation Research (NABIR) program will be selected at a DOE site in early CY 2000. Field site characterization will be completed and the subsurface research at the FRC will be started during 2001, providing the fundamental knowledge for development of bioremediation methodologies for containment and clean up of hazardous. (SC2)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
	• *Continue Atmospheric Radiation Measurement (ARM) accomplishments by conducting five intensive operations periods at the ARM Southern Great Plains site. Data will be obtained from the second station on the North Slope of Alaska. The third station in the Tropical Western Pacific, on Christmas Island, will become operational. (SC3-1)*	
• *Initiate a Significant Opportunities Program in the broader sciences of global change for outstanding undergraduate and graduate students. (ST4-1)* (MET GOAL)	• *Continue The Global Change Research Education Program will continue to support graduate and undergraduate students conducting DOE-related global change research. It will continue to participate in the multi-agency "Significant Opportunities in Atmospheric Research and Science" Program (SOARS). (SC4-1)*	
• *Continue to make 2 to 10 appointments each in the Biological and Environmental Research program's Alexander Hollander Distinguished Post Doctoral Fellowship; the multi-agency SOARS Program (Significant Opportunities in Atmospheric Research and Science) for outstanding Hispanic, Native American, and African American students in the atmospheric and related sciences. (ST4-1)* (EXCEEDED GOAL)	• *Make 4 to 10 appointments in both the BER Alexander Hollaender Distinguished Post Doctoral Fellowship Program and the Historical Black Colleges and Universities Faculty and Student Research Programs for research across all areas of the BER program. (SC4-1)*	

Means and Strategies for FY2001:

The Biological and Environmental Research (BER) program will conduct a peer reviewed, fundamental research program through the Department's National Laboratories, leading academic institutions, and private-sector research institutions. Scientific personnel include biologists, microbiologists, engineers, and atmospheric and environmental scientists, as well as the scientific and technical program managers. The capacity of the DOE Production Sequencing Facility (PSF) is being expanded to ensure that 100 million finished and 250 million high quality draft base pairs of human DNA are sequenced and submitted to public databases. Sequencing capacity at either the Institute for Genomic Research (TIGR) or the Joint Genome Institute's Production Sequencing Facility is also adequate to complete the sequencing of two additional microbes. The three ARM sites will be operational and the research personnel, technical support staff, and equipment are sufficient to conduct the IOPs. The

selection of the first FRC is near completion, pending environmental review. Site characterization methodologies are well developed and will be implemented quickly with site selection.

Collaboration Activities:

The 1998 DOE/NIH 5 year plan for the U.S. Human Genome Project was published in the October 26, 1998 issue of *Science* magazine. It committed to completing a working draft of the gene rich regions of the human genome by 2001 and a highly accurate sequence of the human genome by 2003. Currently 16 centers, representing the United States, the United Kingdom, France, Germany, Japan, and China are participating in the International Sequencing Consortium. Five of the centers [the JGI/ PSF (DOE), the Sanger Centre (Wellcome Trust), Washington University (NIH), the Whitehead Institute at MIT (NIH), and Baylor University (NIH)] are currently taking responsibility for more than 80% of the sequencing production. Microbial genomics activities are coordinated within the Department and the federal agencies that participate in the Climate Change Technology Initiative. The ARM IOPs include collaborations with NASA, NOAA, USDA, and NSF supported scientists on aircraft operations, ground-based instrumentation, and data acquisition, distribution, and analysis. The FRCs will provide a unique research field site for collaboration within the Department and with other federal agencies (e.g., NFS supported scientists and EPA).

External Factors Affecting Performance:

Achieving the BER performance objectives is predicated on receiving the requested FY 2000 and FY 2001 budgets. Furthermore, achieving the sequencing objectives is predicated on the installation of 84 new DNA sequencers and significant reductions in current sequencing costs. Both of the reductions in sequencing costs and the installation of the required DNA sequencers will be accomplished by January of 2000. The key external factor that could affect performance is the price of commercial reagents necessary for sequencing. Substantial increases in costs of sequencing reagents above the current levels would reduce the number of sequencing lanes that could be run and thereby decrease sequencing output. The trend in the past has been toward decreased reagent costs from year to year.

Reduced budgets in FY 2000 will require limiting operations at the ARM Tropical Western Pacific site. The individual research projects at the FRC will be evaluated for potential environmental concerns. Some projects may not be initiated pending environmental review.

Validation and Verification:

Data Sources:	MOU between National Institutes of Health National Human Genome Research Institute and DOE and planning and proposal documents for each project
Baselines:	Baseline measures are contained in EA and on the websites for the projects referred to below
Frequency:	The Joint Genome Institute will conduct periodic progress review and field research center management will report to NABIR quarterly with yearly on site reviews
Data Storage:	Data stored at websites: JGI web-site (http://www.jgi.doe.gov/); TIGR website (http://www.tigr.org/); and genome database website (http://gdbwww.gdb.org/gdb/gdbtop.html) Additionally, FRC data will be managed by a consortia led by ANL and LBNL making geochemical, microbiological, geophysical, and GIS data accessible by mid FY2000
Verification:	Data availability and publication of scientific progress will be monitored. The sequencing data will be entered in GenBank and can be verified independently. Program peer review by Office of Biological and Environmental Research, evaluation by scientific community and publication of the sequence summaries in journals. Oversight of the NABIR program will be conducted by a subcommittee of the BER advisory committee especially initiated for NABIR.

DOE Decision Unit: Basic Energy Sciences

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Basic Energy Sciences	-	SC	896	964

Introduction of the Decision Unit:

The Basic Energy Sciences (BES) program fosters and supports fundamental research in the natural sciences and engineering to provide a basis for new and improved energy technologies and for understanding and mitigating the environmental impacts of energy use. As part of its activities, BES plans, constructs, and operates major scientific user facilities to serve researchers at universities, national laboratories, and industrial laboratories.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Begin Title I design activities, initiate subcontracts and long-lead procurements, and continue R&D work necessary to begin construction activities of the Spallation Neutron Source.* *(ST3-1)* (MET GOAL)	• *Continue construction of the Spallation Neutron Source, at cost and timetables as contained in the Critical Decision II agreement, to provide beams of neutrons used to probe and understand the physical, chemical, and biological properties of materials at an atomic level leading to better fibers, plastics, catalysts, and magnets and improvements in pharmaceuticals, computing equipment, and electric motors.* *(ST3-1)* • *Continue Partnerships for Academic-Industrial Research where peer reviewed grants are awarded to university researchers for fundamental, high-risk work jointly defined by the academic and industrial research partners.* *(ST1-3)*	• *Meet the cost and schedule M/S for upgrade and construction of scientific user facilities, including the construction of the Spallation Neutron Source, by regular external independent reviews.* *(SC1)* • *Maintain and operate the scientific user facilities so that the unscheduled downtime on average is less than 10 percent of the total scheduled operating time.* *(SC1)* • *Research performed by investigators in universities and DOE laboratories will continue to be recognized as outstanding during rigorous peer review and through the awards and accolades of the broader science community and others that use our results as reflected by peer review comments and annual awards data collected by the program.* *(SC3)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	FY 2001 Proposed Target
	• *Continue fabrication of instrumentation for the short-pulse spallation source at the Manual Lujan Jr. Neutron Scattering Center at the Los Alamos Neutron Science Center. (ST3-1)* • *Maintain the high quality and relevance of DOE's science as evaluated by annual peer reviews and advisory committees. (ST1-1)* • *Maintain optimum operating schedules at major scientific user facilities to serve thousands of researchers from universities, national laboratories, and industry while operating time lost at such user facilities due to unscheduled downtime is less than 10 percent of the total scheduled possible operating time, on average. (ST1-1)* • *Keep the development and upgrade of scientific facilities (including experimental stations) on schedule and with in cost, not exceeding 110 percent of estimates. (ST1-1)*	

Means and Strategies for FY2001:

To achieve outstanding recognition, BES will support fundamental, innovative, peer-reviewed research to create new knowledge in areas important to the BES mission, i.e., in materials sciences, chemical sciences, geosciences, plant and microbial biosciences, and engineering sciences. All research projects will undergo regular peer review and merit evaluation based on procedures set down in 10 CFR 605 for the extramural grant program and under a similar modified process for the laboratory programs and scientific user facilities, and all new projects will be selected by peer review and merit evaluation.

To achieve reliability of facility operating schedules, BES will manage premier national scientific user facilities for materials research and related disciplines to serve researchers at universities, national laboratories, and industrial laboratories, thus enabling the acquisition of new scientific knowledge. These scientific facilities include synchrotron radiation light sources, high-flux neutron sources, electron-beam microcharacterization centers, and specialized facilities such as the Combustion Research Facility. In managing these facilities BES established baselines for all performance indicators for each scientific user facility using an annual survey tool developed in collaboration with the facility directors and the facility user coordinators. An integral part of the survey tool is an assessment of user satisfaction. BES also began formal peer reviews of its major scientific user facilities to assess, in the aggregate, the scientific output and, to the extent possible, the outcomes of facilities.

To keep within 10 percent of cost and schedule baselines on the development and upgrade of scientific user facilities, including the construction of the Spallation Neutron Source, BES will conduct rigorous independent reviews using external experts of project management cost and schedule.

Collaboration Activities:

The BES program in fundamental science is closely coordinated with, and synergistic to, the activities of other federal agencies (e.g., NASA, NSF, USDA, DOI, and NIH). BES also promotes the transfer of the results of its basic research to contribute to DOE missions in areas of energy efficiency, renewable energy resources, improved use of fossil fuels, reduced environmental impacts of energy production and use, science-based stockpile stewardship, and future energy sources. Hence, BES has extensive collaboration activities with other DOE programs, and collocates many of its research performers in national laboratories with the applied researchers of the DOE technology programs.

External Factors Affecting Performance:

External factors in addition to budgetary constraints that affect the level of performance on these measures include changing mission needs as described by the DOE and the Office of Science (SC) mission statements and strategic plans, and scientific opportunities as determined, in part, by proposal pressure and by scientific workshops. Additionally, the results of external program reviews and international benchmarking activities of entire fields or subfields such as those performed by the National Academy of Sciences and program balance and relevance, including considerations of activities funded by non-BES sources affect the performance level of the program office.

Validation and Verification:

Data Sources:	The planning and operations documents and agreements, MOUs, etc., of BES facilities operations. Annual reports of facility performance.
Baselines:	Baselines and timelines that contain the milestones, rate of activity, schedules, etc. of the BES facility upgrades and construction activities identified in the FY 2001 budget request
Frequency:	BES conducts a formalized peer review process for activities at the DOE laboratories and peer reviews grant applications as described in 10 CFR 605 on a regular basis at least once every 3-4 years.
Data Storage:	All of these documents reside at headquarters, operations offices and at each facility.
Verification:	Broad program reviews are conducted by the Basic Energy Sciences Advisory Committee on an ongoing basis.

DOE Decision Unit: Advanced Scientific Computing Research

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Advanced Scientific Computing Research	-	SC	128	182

Introduction to Decision Unit:

Advanced Scientific Computing Research program supports research in forefront and diverse applied mathematical sciences, high performance computing, communications, and information infrastructure which spans the spectrum of activities from strategic, longer-term, fundamental research to technology research, development, and demonstration. It links SC's science programs and laboratories to national economic competitiveness by conducting long-term, high-risk industry relevant research and development projects in critical technology areas.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Provide fundamental research in environmental sciences, biology, molecular sciences, and computational modeling that will underpin the cleanup of contaminated sites. (ST2-2)* (MET GOAL)	• *Develop advanced computing capabilities, computational algorithms, models, methods, and libraries, and advanced visualization and data management systems to enable new computing applications to science. (ST2-1)* • *Continue to fabricate, assemble, and operate premier supercomputer and networking facilities that serve researchers at national laboratories, universities and industry enabling understanding of complex problems and effective integration of geographically distributed teams in national collaborations. (ST2-1)* • *Initiate about 7 Laboratory Technology Research projects that address the Department's top priorities for science and technology, through cost-shared research partnerships with industry. (ST2-2)*	• Facilities, including the National Energy Research Scientific Computing Center (NERSC) and ESnet, will be operated within budget and successfully meet user needs and satisfy overall SC program requirements where, specifically, NERSC will deliver 3.6 Teraflop capability by the end of FY 2001 to support DOE's science mission. (SC2)

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
	• *Review and select for Phase II funding approximately 80 Small Business Innovation Research (SBIR) proposals that satisfy proof of concept under Phase I funding. In a separate competition, select about 200 SBIR proposals for Phase I funding. (ST2-2)* • *Meet 75 percent of the requirements of computer facilities and networks users. (ST3-3)* • *Continue to make available electronic journals at the desktop, and implement tools to facilitate electronic assess to DOE's scientific and technical information. (ST3-3)* • *Link information resources throughout the DOE complex to allow access and use via a single user inquirer, and capitalize on bibliographic information and search tools to facilitate access to full-text journal literature. (ST3-3)*	• *Review and select through rigorous peer review for Phase II funding, 80 Small Business Innovation Research (SBIR) projects that were determined to be of the highest quality and to satisfy proof of concept under Phase I funding. In a separate competition, select 200 new SBIR proposals for Phase I funding.* (SC2) • *Conduct regular peer review and merit evaluation based on the principles set down in 10 CFR Part 605 for grants and cooperative agreements, with all research projects reviewed at least once and no project extending more than four years without review. (SC3)* • *Support the Computational Science Graduate Fellowship Program with the successful appointment of 10 new students to support the next generation of leaders in computational science for DOE and the Nation. (SC4)* • *Expand and increase access to published and pre-printed scientific and technical information via cost-effective, specialized information retrieval systems resulting in a 25% increase in users served. (SC3)*

Means and Strategies for FY2001:

The Office of Advanced Scientific Computing Research will support fundamental, peer-reviewed research to create new fundamental knowledge in areas of advanced computing research important to the Department of Energy. To plan, fabricate, assemble, and operate premier supercomputer and networking facilities, the program will serve researchers at national laboratories, universities, and industry, thus enabling both new understanding through analysis, modeling, and simulation for complex problems and effective integration of geographically distributed teams through national collaboratories.

All research projects will undergo regular peer review and merit evaluation based on procedures set down in 10 CFR 605 for the extramural grant program and under a similar modified process for the laboratory programs and scientific user facilities, and all new projects will be selected by peer review and merit evaluation.

To continue to develop future generations of scientists with the breadth of skills required to be effective both in advanced computing research and in interacting with disciplinary sciences, the CTR program supports the Computational Science Graduate Fellowship program. The Technical Information Management (TIM) program will increase the number of researchers and citizens served with scientific and technical information

at a lower cost per person served; lead/advance the institutionalization of an electronic, decentralized technical information collection that contributes to the development of a Virtual Library of Energy Science and Technology; expand agreements for DOE's widespread, electronic access to U.S. science journals; provide more effective mechanisms for public access to global information; and provide secure exchange and preservation of 50 years of the Department's classified R&D information managed by the TIM program, such as PubSCIENCE, PrePrint Networks, and enhance delivery of DOE scientific and technical report literature through an information infrastructure that uses tools such as EnergyLink, the DOE Information Bridge, and the Energy Science and Technology Database.

Collaboration Activities:

The ASCR research program and facilities have been closely coordinated with the information technology research activities of other Federal Agencies (DARPA, EPA, NASA, NIH, NSA, and NSF) through the Computing Information and Communications R&D subcommittee of the NSTC under the auspices of the Office of Science and Technology Policy. This coordination will continue in the future through the newly organized IT Group of Principals and IT2 Working Group, established in response to the recommendations of the President's Information Technology Advisory Committee. In addition to this interagency coordination ASCR has a number of partnerships with other programs in the Office of Science and other parts of the Department, focused on advanced application testbeds to apply the results of ASCR research to mission critical problems in those areas.

External Factors Affecting Performance:

External factors, in addition to budgetary constraints, that affect the level of performance on these measures include: (1) changing mission needs as described by the DOE and the Office of Science (SC) mission statements and strategic plans; (2) scientific opportunities as determined, in part, by proposal pressure and by scientific workshops; (3) the results of external program reviews and international benchmarking activities of entire fields or subfields.

Validation and Verification:

Data Sources:	The planning and operations documents and agreements, MOUs, etc. of ASCR
Baselines:	Baselines and timelines that contain the milestones, rate of activity, schedules, etc. of facilities operations that reside at headquarters, operations offices and at each facility; the BES facility upgrades and construction activities identified in the FY 2001 budget request
Frequency:	A formalized peer review process for activities at the DOE laboratories and peer reviews grant applications as described in 10 CFR 605 on a regular basis at least once every 3-4 years
Data Storage:	Annual reports of facility performance and progress data are reported to, and reside at, Headquarters, operations offices, and at each facility
Verification:	verification i.e. broad program review, advisory committee, surveys etc. - N/A

DOE Decision Unit: Fusion Energy Sciences

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
250 Energy Programs				
Fusion Energy Sciences	-	SC	248	247

Introduction of the Decision Unit:

The mission of the U.S. Fusion Energy Science Program is to advance plasma science, fusion science, and fusion technology—the knowledge base needed for an economically and environmentally attractive fusion energy source.

Annual Performance Goals:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Maintain high scientific quality in the Energy Research Program as judged by the Program Advisory Committees. (ST3-4)* (MET GOAL)	• *Maintain high scientific quality in the Energy Research Program as judged by the Program Advisory Committees. (SC1-1)* • *Begin new funding opportunities in basic plasma sciences and junior plasma physics facility development programs provided through competitive announcements. (SC1-3)* • *Operate a novel magnetic fusion confinement device, the National Spherical Torus Experiment, with 0.5 megaampere plasma currents approaching 0.5 second pulse lengths and 1 megaampere, currents for shorter pulses.(SC1-5)* • *Make operational three innovative concept exploration experiments in fusion science--The LSX field-reversed configuration and the flow-through Z pinch, both at the University of Washington and the Pegasus quasi-spherical toroidal plasma at the Wisconsin-- providing basic scientific understanding of relevant concept phenomena. (SC1-6)*	• *Sustain partnerships that support fusion/plasma sciences, specifically through completion by June 2001 of a new NSF/DOE Partnership in Basic Plasma Science and Engineering to provide continuity after the present agreement ends, and by initiating a new element of the U.S.-Japan collaborative program by the end of FY 2001. (SC4)* • *Complete by June 2001 the 6 MW power upgrade of the DIII-D microwave system and initiate experiments with it to control and sustain plasma current profiles, with the goal of maintaining improved confinement of plasma energy for longer periods of time. (SC1)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	FY 2001 Proposed Target
	• *Operate the DIII-D Tokamak facility to test the feasibility of using increased radio frequency heating power and improved power exhaust capabilities to extend the pulse length of advanced operating modes, a requirement for future fusion energy sources. (SC3-1)* • *Complete and make available for use via the web a new energy transport code framework, based on modern computing techniques. (SC1-2)*	• *Initiate and meet schedules for dismantling, packaging, and offsite shipping of the Tokamak Fusion Test Reactor (TFTR) systems.*

Means and Strategies for FY2001:

The DIII-D microwave system upgrade will be carried out under a contract with private industry. The prime contractor, PPPL, will manage the decontamination and decommissioning (D&D) activities and arrange for the necessary supporting sub-contractor skills. Appropriate staff of the participating agencies will negotiate new partnerships.

Collaboration Activities:

Japanese engineers will collaborate with PPPL during the TFTR D&D. The NSF/DOE Partnership supports basic plasma physics and engineering efforts through coordinated review and funding. The US-Japan collaborative program provides optimum use of facilities and research staff through coordinated research activities.

External Factors Affecting Performance:

The equipment required for the DIII-D microwave upgrade represents cutting edge technology, which always presents some risk in implementation. External factors which could affect the TFTR D&D are changes in regulations regarding burial of radioactive waste.

Validation and Verification:

Data Sources:	Progress on the DIII-D microwave upgrade is described in monthly progress reports that are submitted to OFES. PPPL provides regular reports to OFES, which includes status reports on TFTR D&D. Data used for validation and verification are the D&D project cost and schedule records
Verification:	Participating parties will verify when signing the new partnership agreements

Planned Program Evaluation:

The Office of Science obtains validation of the relevance and quality of its current and new research efforts through peer review, in addition to the advisory committees and professional scientific associations which are involved in providing support and guidance to the SC programs. The five advisory committees are composed of industry, university, and government officials who are qualified in the scientific disciplines of the program area of the advisory committee. SC tasks them on various issues to provided advice to program managers on approaches, relevance of research portfolio, or strategic planning.

CORPORATE MANAGEMENT

The Department manages an extensive array of energy programs over a nationwide complex including headquarters organizations, operations offices, field offices, national laboratories, power marketing administrations, special purpose offices, and sites now dedicated to environmental cleanup. The Department needs strong corporate management in order to integrate its diverse portfolio of program missions, its facilities, and its contractors spread over a large geographic base.

This strong corporate culture is also necessary to complement program manager's pursuit of program mission goals. The offices funded under the Corporate Management goal:

- provide oversight and internal review of policy issues and budgets,
- act as honest brokers in decision-making,
- provide leadership on broad departmental management issues,
- represent the Department with other Federal Agencies.

Corporate Management goal and objectives provide the focus for implementing Secretary's initiatives to improve management and accountability while ensuring the safety and health of the DOE workforce and members of the public.

CORPORATE MANAGEMENT GOAL

Demonstrate excellence in the Department's environment, safety and health; and management practices and systems to support our world class programs.

The Corporate Management goal is supported by the following five strategic objectives.

CM1: Ensure the safety and health of the DOE work force and members of the public, and the protection of the environment in all Departmental activities.

CM2: Manage human resources and diversity initiatives and implement best management practices to improve the delivery of products and services.

CM3: Ensure public confidence in the Department's contractual and financial transactions.

CM4: Improve the Department's efficiency and effectiveness through Information Technology Systems and Infrastructure.

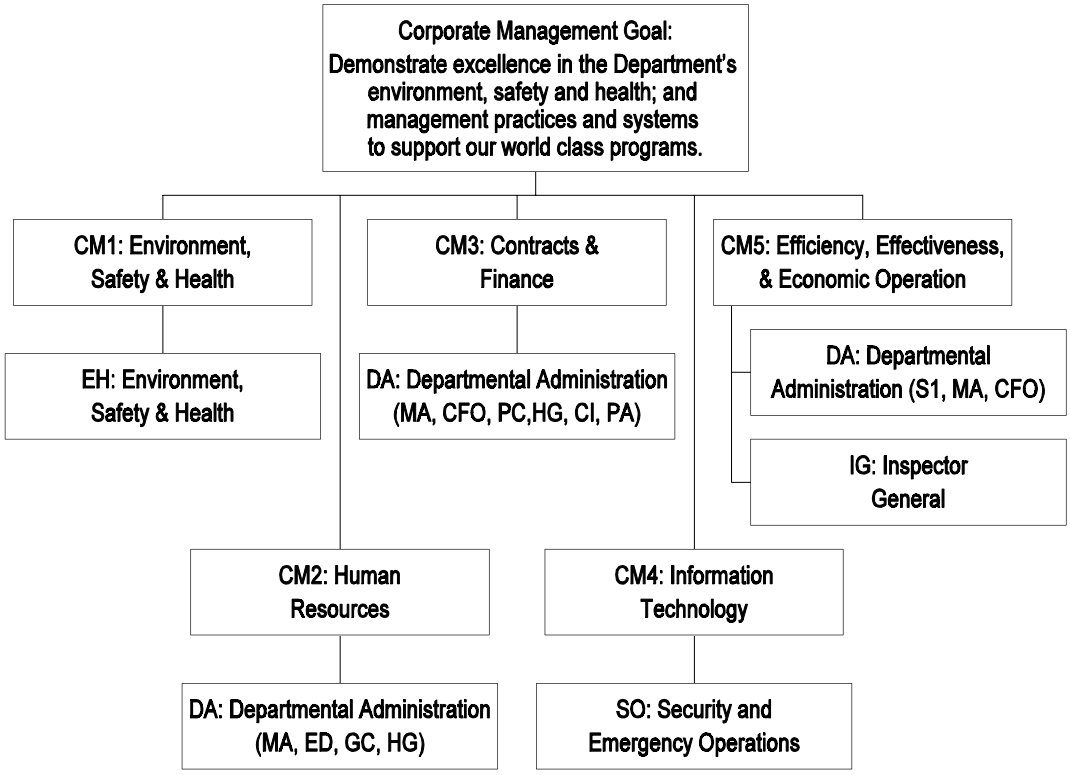
CM5: Promote the efficient, effective, and economical operation of the Department of Energy.

The following table maps the Presidential Budget's Program and Financing (P&F) accounts and program activities to the Department of Energy's offices and decision units. The alignment includes aggregation, disaggregation, and consolidation. The chart that follows this one shows how the decision units support the Department's Strategic Plan objectives for this business line.

Presidential Budget Program and Financing (P&F) Accounts and Program Activities	FY 2001 Budget Request ($M)	DOE Office	DOE Decision Units
270 Energy Supply			
Environment, Safety & Health (non defense)	40	EH	Environment, Safety & Health
Other Defense Activities			
Environment, Safety & Health (defense)	109	EH	Environment, Safety & Health
Worker Compensation Activities	17	EH	Environment, Safety & Health
Total Environment, Safety & Health	**166**		**Environment, Safety & Health**
Other Departmental Support and Staff Offices			
Office of the Secretary	6	S1	Office of the Secretary
Management and Administration	91	MA	Management and Administration
Chief Financial Officer	(72)*	CFO	Chief Financial Officer
Board of Contact Appeals	1	HG	Hearings and Appeals
Congressional and Intergovernmental Affairs	5	CI	Congressional and Intergovernmental Affairs
Public Affairs	4	PA	Public Affairs
General Counsel	23	GC	General Counsel
Office of Policy	8	PO	Office of Policy
International Affairs	10	IA	International Affairs
Economic Impact and Diversity	7	ED	Economic Impact and Diversity
Contract Reform and Privatization	3	PC	Contract Reform and Privatization
Subtotal Departmental Administration	**85**		**Departmental Administration (DA)**
Economic Regulation - Hearings and Appeals	2	HG	Hearings and Appeals
Other Defense Activities - Hearings and Appeals	3	HG	Hearings and Appeals
Office of the Inspector General	**33**	IG	**Office of the Inspector General**
Adjustment - FERC (Receipts)	(28)		
Adjustment - Colorado River Basin (Receipts)	(21)		
Total - Other Departmental Support and Staff Offices	**74**		

* Includes adjustment of $128 million for revenues.

Corporate Management goal is supported by five strategic objectives. Each strategic objective is being pursued through long-term strategies. The Decision Units fund work on those long-term strategies and the annual performance goals are discussed with the Decision Units on the following pages. DOE Decision Units provide a means to link program resources at lower levels of aggregation to performance goals. While this approach allows us to clearly link annual performance with annual budget resources, we are also keeping our strategic plan goals and objectives in focus by annotating each performance goal with the strategic objective it supports.



DOE Decision Unit: Environment, Safety and Health

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Environment Safety and Health (non defense)	-	EH	38	40
Other Defense Activities				
Environment Safety and Health (defense)	-	EH	90	109
Worker Compensation Activities	-	EH		17
Total ES&H			128	166

Description of the Program:

The Office of Environment, Safety and Health (EH) is a corporate resource that provides leadership and Departmental management excellence to protect the workers, the public, and the environment. EH provides corporate policy, guidance, and technical expertise to support and advise the Secretary regarding the line management implementation of environment, safety, and health requirements and programs. EH staff is expert in disciplines such as environmental protection; industrial hygiene; industrial, chemical, and constructions safety; public health; occupational medicine, and risk management. EH activities funded within the Energy Supply appropriation are concentrated into the following business lines within one operating decision unit: Policy, Standards, and Guidance; and Corporate Programs. This better characterizes EH as a corporate resource to advance the DOE mission while promoting the establishment of effective and efficient environment, safety, and health programs. The EH defense activities are concentrated into four business functions within one decision unit: Oversight, Health Studies, and the Radiation Effects Research Foundation (RERF) and the Gaseous Diffusion Plants activity. Exposure Compensation Activities relate to compensation of workers across the complex for work related illnesses.

Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Implement Integrated Safety Management Systems in all major management and operations contracts. (CM1-1)* (MET GOAL) • *Conduct oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management, safety management, and accidents. (CM1-1)* (MET GOAL) • *Issue an initial status report on the development of a public health agenda by December 31, 1998 and a final public health agenda for each site, which reflects customer and stakeholder input, shall be issued in FY 2000. (CM2-4)* (NEARLY MET GOAL)	• *Implement Integrated Safety Management at all DOE sites.(FMFIA milestone) (CM1-1)* • *Prevent fatalities, minimize serious accidents, and minimize environ-mental releases at Depart-mental sites. (CM1-1)* • *Conduct oversight special reviews, assessments, evaluations, and inspections of such topics as emergency management, safety management, and accidents. (CM1-1)* • *Propose legislation to Congress that would establish a program to compensate:* – *Current and former Federal and contractor workers and beryllium vendor employees who are ill because of beryllium exposure; and* – *Certain workers at the Oak Ridge East Tennessee Technology Park and the Paducah Gaseous Diffusion Plant in Kentucky who have illnesses associated with exposures which occurred during their employment. (CM1-1)* • *Provide medical screening to all DE workers formerly exposed to beryllium during their employment at DOE facilities (CM1-1)* • *Develop a stronger, more coherent public health agenda at and surrounding DOE sites. (CM1-1)* • *Accomplish the milestone of the FMFIA corrective action plan to complete the nuclear safety standards upgrade project. (CM1-1)*	• *Measure the effectiveness of Integrated Safety Management implementation by tracking five complex-wide performance indicators:* – *Total Recordable Case Rate,* – *Occupational Safety Cost Index,* – *Hypothetical Radiation Dose to the Public,* – *Worker Radiation Dose; and,* – *Reportable Occurrences of Releases to the Environment. (CM1)* • *Make biennial presentations of the results of epidemiologic surveillance analyses to workers and management at participating DOE facilities. (CM1)* • *Establish a beryllium registry within one calendar year of release of the final Beryllium Rule. (CM1)* • *Expand public access to the office of Epidemiologic Studies' United States Transuranium/Uranium Registries program's reports and information by linking the Registries' Internet home page to the Office of Epidemiologic Studies' home page. (CM1)* • *Identify at-risk worker populations and employ appropriate mitigation measures. Continue shift from a reactive approach to emphasizing excellence and prevention in protecting worker and public safety and health. (CM1)* • *Publish 10 interim or final international health scientific and technical reports from the RERF, Marshall Islands, and Russians to increase our information defining the relationship between ionizing radiation dose and its effect on human health. (CM1)*

Means and Strategies for FY2001:
The activities performed by business lines in support of the EH mission are as follows:

Policy, Standards and Guidance activities involve the maintenance of current, up to-date DOE policies, standards, and guidance while adopting consensus standards as they apply to the DOE work environment. DOE regulatory liaison activities include transactions and participatory relationships with other regulators (OSHA, NRC and the States) to accommodate their identified interest and jurisdiction.

Corporate Programs activities provide products and support in environment, safety, and health that efficiently use DOE resources when managed centrally by EH. Such programs include the Department of Energy Laboratory Accreditation Program (DOELAP), the Federal Employees Occupational Safety and Health (FEOSH) program, and the nationally recognized Voluntary Protection Program (VPP). Environment, Safety, and Health Performance Analysis activities include collecting and analyzing DOE performance data to support policy decisions and focus limited resources on the most hazardous vulnerabilities. Corporate programs also include crosscutting Department-wide functions such as environment, safety, and health monitoring; programs directed toward strengthening safety performance and incorporating it into the routine of daily work; communication of environment, safety, and health program guidance and practices; and lessons learned and the maintenance of an operating experience database. Technical Training and Professional Development provides fellowships and grants to further disciplines such as industrial hygiene and health physics and to provide a potential employment pool for all of DOE.

The National Environmental Policy Act (NEPA) Program provides compliance assurance to DOE line management by supporting the implementation of the Department's NEPA activities. Information Management provides for the overall management of environment, safety, and health data and information for the DOE complex and other stakeholders.

Oversight activities provide information and analysis needed to ensure that the Department of Energy (DOE) and contractor management, the public, the Secretary of Energy, and the Assistant Secretary for Environment, Safety and Health have an accurate, comprehensive understanding of the effectiveness, vulnerabilities, and trends of the Department's environment, safety, and health policies and programs. This data and analysis provide critical information on how effectively line management is implementing Integrated Safety Management. The activities to accomplish this mission include Evaluations, Price-Anderson Amendments Act Enforcement, and the Departmental Representative to the Defense Nuclear Facilities Safety Board (DNFSB). The safeguards and security oversight function has been transferred to the Office of Independent Oversight and Performance Assurance.

Health Studies activities include Occupational Medicine (medical surveillance); Epidemiologic Studies (surveillance and communication of worker injury and illness); Public Health Activities (health studies, health education and promotion, etc., at DOE sites); and International Health Programs (Marshall Islands program and health studies in the former Soviet Union and Spain).

Radiation Effects Research Foundation (RERF) activities support analysis of the medical effects of radiation with the intention of contributing to the maintenance of the health and welfare of atomic bomb survivors and to the enhancement of worldwide radiation protection practices and standards.

Gaseous Diffusion Plant activities help to resolve concerns and issues raised by workers relating to radiation exposure.

Collaboration Activities:
EH maintains close contacts with private industry, regulatory agencies, independent standard-setting groups, and national environment, safety, and health organizations, and facilitating information exchanges between DOE line management and their counterparts in the private sector. EH staff also provide corporate support to DOE managers in developing improved strategies for including safety and health in planning and conducting work; applying regulations (guidance on Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), the States, and Nuclear Regulatory Commission (NRC) regulation); and DOE policy and guidance

External Factors Affecting Performance:

Specific ES&H events, departmental program activities, and requests from field sites will affect the level and deployment of EH's resources.

Validation and Verification:

Data Sources:	The field sites provide their operating data to EH's various reporting systems
Baselines:	Technical baselines have been established using historical data..
Frequency:	Data is updated monthly and reports are issued quarterly and annually
Data Storage:	Data is stored at various sites and in EH's data bases, including: Computerized Accident/Incident Reporting System, Radiation Exposure Monitoring System, and Occurrence Reporting and Processing System.
Verification:	Data entry quality control procedures have been established by each EH information system manager.

Planned Program Evaluation:

An extensive peer and program review process is followed to assure that reports reflect the highest quality achievable.

DOE Decision Units: Departmental Administration & Hearings and Appeals

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Offices**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
Departmental Administration	-	S1, MA, CFO, CI, PA, HG, GC, PO, IA, ED, PC	99	85
Hearings and Appeals	-	HG	5	5

These departmental offices often support the strategic objectives of the business lines and corporate management at a level below the reporting threshold of this plan. For example, the Office of Contract Reform and the Board of Contract Appeals both contribute significantly to the strategic objective to improve the delivery of products and services through contract reform and the use of business-like management practices. However, responsibility for these goals resides in Management and Administration with the Offices of Procurement Policy and Procurement Operations. The Office of Economic Impact and Diversity collaborates with the Energy Information Administration to report on the effects of national energy programs, policies, and regulations of DOE on minorities and minority communities. Examples like these abound in the departmental offices. On the other hand, many of these offices lead departmental efforts in attaining our strategic goals. A description of these offices follows:

Office of the Secretary: The Office of the Secretary provides overall policy direction for the Department of Energy in fulfilling its mission to foster a secure and reliable energy system that is environmentally and economically sustainable, to be a responsible steward of the Nation's nuclear weapons, to clean up our own facilities, and to support continued United States leadership in science and technology.

Management and Administration: The Office of Management and Administration provides the Department with the best value, high quality, and timely products and management services. These products and services are provided in the areas of administration, human resources and training, procurement assistance, performance excellence, executive secretariat support, consumer information and aviation management.

Chief Financial Officer: The CFO provides centralized direction and oversight of the full range of financial and planning activities including: strategic planning and program evaluation; project management; budget formulation, presentation and execution; Department-wide oversight of internal controls; Departmental accounting and financial policies, procedures and directives; operation and maintenance of the Department's payroll system and financial information system/Standard General Ledger; and, financial management (accounting, cash management, and reporting).

Board of Contract Appeals: The Board is an administrative tribunal responsible to the Secretary and under law for the fair and impartial trail and adjudication of a variety of disputes. With few exceptions, these disputes are related to the Department's acquisition and financial assistance programs.

Congressional and Intergovernmental Affairs: This office promotes Departmental policies, programs, and initiatives through liaison, communication, coordination, and interaction with Congress, State, local, and Tribal governments, other Federal agencies, stakeholders, and the general public.

Public Affairs: Public Affairs communicates information about DOE's work in a timely, accurate, and accessible way to the news media and the public.

General Counsel: The General Counsel provides comprehensive legal services to the Secretary and the Department.

Office of Policy: The Office of Policy leads the Department's efforts to provide accurate and unbiased analysis of existing and prospective energy-related Government policies, and to assess and respond to emerging threats to the economic efficiency and reliability of the Nation's energy sector. Additionally, the Office lends its analytical capabilities to strengthen the department's leadership in advancing scientific and technology developments.

International Affairs: The Office of International Affairs formulates and develops international energy policy; leads the Department's bilateral and multilateral cooperation with other nations and international organizations, including participation in international negotiations; coordinates the implementation of international cooperative agreements; advances energy, environmental, and non-proliferation policies in international agreements; promotes positive relationships with foreign nations that support U.S. policy goals; and, promotes policy and regulatory reforms in foreign countries that will remove barriers and open markets for U.S. firms abroad. IA also coordinates DOE's international energy, science and technology relations with other countries.

Office of Economic Impact and Diversity: Economic Impact and Diversity develops and executes department-wide policies to implement applicable legislation and Executive Orders that strengthen diversity requirements affecting the workforce, small and disadvantaged businesses, minority educational institutions, and historically under represented communities.

Contract Reform and Privatization Project Office: This office acts as the principle advisor o the Secretary in the formulation, guidance, and implementation of the Department's privatization and contract reform initiatives. It also represents the Department on these matters in dealings with Congress, other Federal agencies, and various stakeholders.

Office of Hearings and Appeals: OHA is responsible for all of the Department's adjudicatory processes, personal security clearance cases, whistleblower complaints, and requests for information under the Freedom of Information and Privacy Acts. In addition, OHA is responsible for resolving or adjudicating all remaining matters stemming from the Emergency Petroleum Act of 1973. OHA also seeks to resolve all claims of adverse impact emanating from the operations of the Department, including employee claims, public interests, and disputes between offices.

Annual Performance Goals for the Office of Management and Administration:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Improve Federal technical workforce capabilities at defense sites by implementing the FY 1999 milestones of the Revised Implementation Plan for DNFSB Recommendation 93-3. (CM1-3)* (MET GOAL)	• *Improve Federal technical workforce capabilities at defense sites by implementing the FY 2000 milestones of the Revised Implementation Plan for DNFSB Recommendation 93-3. (CM1-3)*	• *Improve Federal technical workforce capabilities through support of Federal Technical Capability Panel operations for activities related to the Technical Qualification Program, program reporting and assessments. (CM2)*
• *Reduce the Freedom of Information Act backlog by 10 percent and the average case age by 10 percent over the previous year. (CM2-2)* (NEARLY MET GOAL)	• *Reduce the average processing time for Freedom of Information Act cases by 5%. (CM2-2)*	
• *Implemented a DOE-wide employee accessible automated personnel system by December 1998. (CM3-3)* (EXCEEDED GOAL)	• *Increase the electronic transfer of documents through implementation of paperless workflow in CHRIS, reducing personnel paper transactions by 15 percent. (CM3-3)*	• *Increase the electronic transfer of documents through implementation of paperless workflow in CHRIS, resulting in 15% of the documents process electronically. (CM2)*
• *Conduct self assessments to measure organizational performance in the areas of Customer Satisfaction, Employee Satisfaction, and the achievement of Business Results using the Malcolm Baldrige, President's or Energy Quality Award Criteria. (CM3-1)* (MET GOAL)	• *Conduct self-assessments to measure organizational performance using the National Performance Excellence Standard, the Malcolm Baldrige criteria. Evaluate results, measure trends and recommend organizational improvements to leadership. (CM3-1)*	• *Conduct self-assessments to measure organizational performance using the National Performance Excellence Standard, the Malcolm Baldrige criteria. Evaluate results, measure trends and recommend organizational improvements to leadership. (CM2)*
• *Convert all management and operating contracts awarded in FY 1999 to performance-based contracts. (CM4-1)* (MET GOAL)	• *Convert all M&O contracts awarded in FY 2000 to a Performance Based Service Contract (PBSC) using government-wide standards [FAR, (48 CFR Part 39) and Office of Federal Procurement Policy letter 91-2]. (CM4-1)*	• *Convert all M&O contracts awarded in FY2001 to PBSC management contract. (CM3)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Award 50 percent of all management and operating (M&O) contracts, including three M&O contracts that will change to Federal Acquisition Regulation (FAR) contracts during FY 1999, using competitive procedures. (CM4-1)* (EXCEEDED GOAL)	• *Convert one support services contract at each major site to PBSC using the government-wide standards [Federal Acquisition Regulations, (48 CFR Part 39) and Office of Fed Procurement Policy letter 91-2]. (CM4-1)* • *Complete the milestones listed in the FMFIA corrective action plan for the Departmental challenge of contract management. (CM4-1/FMFIA)*	• *Award approximately 50% of service contracts as PBSC using government-wide standards. (CM3)* • *Continue pilot of Industry Interactive Procurement System at HQ. Maintain current availability of procurement and contracting information for internal and external customers with limited enhancements. (CM3)* • *Select and begin implementation of DOE wide electronic contracting for large procurement. (CM3)*
• *Continue hiring welfare to work recipients to achieve the Presidential goal of 55 by FY 2000, 40 of whom will be hired by the end of FY 1999. (CM3-3)* (EXCEEDED GOAL) • *Improve workforce skills and reduce training costs by implementing the FY 1999 milestones in the DOE Corporate Education, Training, and Development Plan. (CM3-3)* (MET GOAL)	• *Continue hiring welfare to work recipients to exceed the Presidential FY 2000 goal of 55. (CM3-3)* • *Improve overall efficiency and safety of aviation services by conducting a comprehensive aviation program study by July 2000, including an OMB Circular A-76 analysis and a cost effectiveness evaluation; and, by establishing a review process for the conduct of charter and contract aviation services. (CM3-1)* • *Improve workforce skills and reduce training costs by implementing the FY 2000 milestones in the DOE Corporate Education, Training, and Development Plan. (CM3-3)* • *Achieve 90 percent of contract professionals certified under DOE professional development standards. (CM4-1)*	• *Improve overall efficiency and safety of aviation services by conducting a comprehensive aviation program study by July 2000, including an OMB Circular A-76 analysis and a cost effectiveness evaluation; and, by establishing a review process for the conduct of charter and contract aviation services. (CM2)* • *Improve workforce skills and reduce training costs by alignment with other Federal agencies and private sector organizations by implementing milestones contained in the Corporate Training Plan. Revise Corporate Training Plan and its milestones to reflect FY 2002-2005. (CM2)* • *Implement planning and initiate initial prerequisite courses for Masters program. (CM3)*

Annual Performance Goals for the Office of the Chief Financial Officer:

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Identify functional and technical systems requirements for developing a Business Management Information System (BMIS) with a special emphasis on financial management, and develop business scenarios for its evaluation (a milestone of a FMFIA action plan. (CM3-1/FMFIA)* (NEARLY MET GOAL)	• *Complete the development of requirements and the creation of a new account structure. Purchase commercial Core Financial System software for 150 users for a pilot implementation at one of the three accounting service centers and two of its satellite sites. Begin implementation solutions for special DOE requirements. (CM3-1)* • *Update and publish the Department's Strategic Plan by April 2000. (CM3-1)* • *Complete the milestones listed in the FMFIA corrective action plan for the Departmental challenge of CFO mission critical staffing. (CM3-1/FMFIA)*	• *Complete the pilot at one DOE accounting service center, extend the implementation to remaining service centers/satellite offices, purchase additional software licenses, purchase additional hardware, complete programming to meet all statutory and regulatory requirements, continue interfaces to other systems, and conduct training. (CM2)*
• *Prepare and publish an annual accountability report that includes the Department-wide audited financial statement with an unqualified opinion to the Office of Management and Budget by March 1999. (CM4-1)* (NEARLY MET GOAL: IG did not give an unqualified opinion on the financial statement due to issues surrounding the estimate of DOE's future environmental liabilities.)	• *Prepare and publish an annual accountability report that includes the Department-wide audited financial statement with an unqualified opinion to the Office of Management and budget by March 1, 2000. (CM4-1)*	• *Prepare and publish an annual accountability report that includes the Department-wide audited financial statement with an unqualified opinion to the Office of Management and budget by March 2001. (CM2)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Verify progress against established project scope, schedule, and cost baselines on projects valued at $5 million or more. (CM4-2)* (BELOW EXPECTATION: Office of Field Integration responsible for this goal, was closed out. Beginning in FY 2000 this function is the responsibility of the CFO.)	• *By April 2000, implement new project management policies and procedures that strengthen the management of projects, and by July 2000, have new systems in place to verify progress against established project scope, schedule and cost baselines on projects valued at $5 million or more. (CM4-2)*	• *By April 2001 have all ongoing projects, valued at $5 million or more, fully integrated into the project management policies, procedures, and systems implementation. (CM3)*
	• *Complete all planned External Independent Reviews (EIRs) of projects on schedule, to support both the needs of the project managers and timely delivery of EIR reports, with the programs' corrective action plans, to the Congress. (CM4-2)*	• *Complete all planned External Independent Reviews (EIRs) of projects on schedule, to support both the needs of the project managers and timely delivery of EIR reports, with the programs' corrective action plans, to the Congress. (CM3)*
• *Accomplish the milestones of the FMFIA corrective action plan for the Departmental challenge of project management. (CM4-2/FMFIA)* (BELOW EXPECTATIONS: Office of Field Integration responsible for this goal, was closed out. Beginning in FY 2000 this function is the responsibility of the CFO.)	• *Complete the milestones listed in the FMFIA corrective action plan for the Departmental challenge of project management. (CM4-2/FMFIA)*	• *By April 2001 resolve all recommendations from the National Research Council's report, "Improving Project Management in the Department of Energy". (CM3)*
• *Complete four Energy Systems Acquisitions Advisory Board (ESAAB) critical actions on required strategic and major systems. (CM4-2)* (MET GOAL: Office of Field Integration responsible for this goal, was closed out. Beginning in FY 2000 this function is the responsibility of the CFO.)	• *By September 30, 2000 reestablish the Acquisition Executive and ESAAB processes for use on critical decisions for projects of $5 million or more. (CM4-2)*	

Annual Performance Goals for the Office of Economic Impact and Diversity :

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Enhance America's science workforce by ensuring that minority-serving institutions are afforded and take advantage of the Federal Research, development, education and equipment opportunities for which they are eligible and increasing their awards by 5% over FY 1998. (CM3-4)* (BELOW EXPECTATION : New Policy Statement to be issued in FY 2000.) • *Commit to specific procurement strategies that will increase the participation of women-owned small businesses in the Federal marketplace through a Memorandum of Understanding with the Small Business Administration. (CM3-4)* (MET GOAL) • *Publish in the Code of Federal Regulations the DOE Mentor-Protégée Program. (CM3-4)* (NEARLY MET GOAL: Final action on the proposed rule is expected in May 2000).	• *Determine how well the Department's diversity goals are being met by tracking the Department's personnel actions on hiring and competitive promotions against the current Civilian Labor Force statistics. (CM3-4)* • *Ensure equitable opportunities for minority educational institutions and small, minority, and women owned businesses to compete. (CM3-4)* • *Increase employee awareness by publicizing DOE-wide the scope of the employee concerns program, the availability of the ombudsman function, and the DOE employee concerns program offices at the operations and field offices. (CM3-4)*	• *Fully implement the Department's Minority Educational Institutions Strategy. (CM2)* • *Increase management accountability in implementing the DOE Strategic Plan and Workforce 21, including producing appropriate reports tracking DOE's progress in implementing the Strategic Plan and Workforce 21. (CM2)* • *Achieve the Department's small business percentage goals negotiated with the Small Business Administration and the Office of Federal Procurement Policy. (CM2)*

Means and Strategies for FY 2001

Offices in Departmental Administration will continue to improve corporate systems and procedures that support the Department's mission and its corporate management functions. These include streamlining and improving human resources and training activities. To promote procurement excellence we will continue using government-wide standards for Performance Based Service Contracts, contract out to achieve independence in project management reviews, and will review and apply private sector business practices to management of projects and assets.

Significant resources will be applied to fulfill the requirements of legislation including the CFO Act, IG Act, Results Act, FMFIA, Government Management Reform Act, FFMIA, Small Business Act, and Executive Orders to Address Environmental Justice, Historically Black Colleges and Universities, Education Excellence for Hispanic Americans, and Tribal Colleges and Universities.

Collaboration Activities:

These offices represent the Department with other Federal Agencies including: OPM, OMB, Treasury, GAO, and SBA. They collaborate with these and other agencies to fulfill their mutual goals and are subject to their legitimate oversight.

External Factors Affecting Performance:

These factors are a combination of the legislation and executive orders listed above and negotiated responses to the agencies listed above. Assuming budgeted resources are available, these offices are not negatively affected by economic or technology impacts.

Validation and Verification:

Data Sources:	Individual Strategic, Five-Year and Annual Plans; MA Director Program Reviews, FMFIA and Field CFO Assurance Letters, IG Audits, Individual Project Control Systems, Various Program and other Mandated Reports.
Baselines:	Strategic Plan commitments
Frequency:	Annual, Semi-Annual, and Quarterly Reviews
Data Storage:	MA Commitments Tracking System, Core Accounting System, Strategic Management System, Procurement Automated Data System, Subcontracting Reporting System, and Diversity Tracking Systems
Verification:	IG, Congressional and Agency oversight, Internal studies, for example, Business Management Oversight Performance Reviews (BMOP)

Planned Program Evaluation:

DOE uses a process of extensive internal and external review to evaluate progress against established plans. FMFIA reviews of internal controls, Semi-Annual Reviews of the Annual Performance Plan, Annual Self-Assessments, scheduled BMOPs, the Annual Accountability Report, and for cause studies when warranted. This is in addition to regular management progress reviews of sensitive items.

Annual Performance Goals for Office of Policy:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Work with industry organizations and government agencies to establish a comprehensive process to assess Y2K readiness status, promote inter-sectoral coordination, and provide contingency plans. Provide for timely communication to the public of information regarding readiness status and contingency planning activities. (ER1-6)* (MET GOAL)	• *Complete final preparations for a smooth Y2K transition in U.S. energy markets in cooperation with industry organizations and other government agencies. Provide for timely communication to the public of information regarding readiness status, contingency planning activities, and real-time performance of the nation's energy infrastructure during the Y2K rollover. (ER1-6)*	
• *Work with industry organizations and government agencies, including the National Petroleum Council, to assess the impact of changing market conditions and regulations on the level and variability of petroleum prices and supply, and provide recommendations to minimize disruptions during change. (ER1-6)* (MET GOAL)	• *Work with industry organizations and government agencies, including the National Petroleum Council, to assess the impact of changing market conditions and regulations on the level and variability of petroleum prices and supply, and provide recommendations to minimize disruptions during change. (ER1-6)*	• *Work with industry organizations and government agencies, including the National Petroleum Council, to assess the impact of changing market conditions and regulations on the level and variability of petroleum prices and supply, and provide recommendations to minimize disruptions during change. (ER1)*
• *Enhance electricity sector modeling capabilities by bench marking the representation of transmission system constraints against models of physical power flows to better address electric reliability and economic issues, and use this enhanced modeling capability in support of the legislative process. (ER2-1)* (MET GOAL)	• *Use recently enhanced modeling capabilities to demonstrate the impact of provisions to address market power and properly sized regional transmission organizations in support of the legislative process. (ER2-1)*	• *Continue to enhance electricity sector modeling capabilities to better address electric reliability and economic issues, and use this enhanced modeling capability in support of the legislative process. (ER2)*
• *Develop a DOE proposal for guidelines for implementing the flexibility mechanisms included in the Kyoto Protocol. (ER4-1)* (NEARLY MET GOAL)	• *Support further development and the adoption of U.S. proposals for guidelines for implementing the flexibility mechanisms included in the Kyoto Protocol. (ER4-1)*	• *Support further development and the adoption of U.S. proposals for guidelines for implementing the flexibility mechanisms included in the Kyoto Protocol. (ER5)*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
• *Support quantitative analysis and international contacts, Administration efforts to obtain meaningful commitments for reducing greenhouse gas emissions from developing countries. (ER4-1)* (MET GOAL)	• *Support through quantitative analysis and international contacts, Administration efforts to obtain meaningful commitments for reducing greenhouse gas emissions from developing countries. (ER4-1)*	• *Support through quantitative analysis and international contacts, Administration efforts to obtain meaningful commitments for reducing greenhouse gas emissions from developing countries. (ER5)*
• *Lead the US Government technology and climate change strategy development and implementation through:* – *Chairing and expanding the Annex II countries' Climate Technology Initiative which promotes the objectives of the UN Framework Convention on Climate Change (UNFCCC) by fostering international cooperation for accelerated development and diffusion of climate-friendly technologies and practices for all activities and greenhouse gases.* – *Leading and facilitating the development of US positions on technology issues in the climate negotiations including participation in the UNFCCC technology consultation process. (ER4-1)* (MET GOAL)	• *Lead the US Government technology and climate change strategy development and implementation through:* – *Chairing and expanding the Annex II countries' Climate Technology Initiative which promotes the objectives of the UN Framework Convention on Climate Change (UNFCCC) by fostering international cooperation for accelerated development and diffusion of climate-friendly technologies and practices for all activities and greenhouse gases.(EE)* – *Leading and facilitating the development of US positions on technology issues in the climate negotiations including participation in the UNFCCC technology consultation process. (ER4-1)*	• *Lead the US Government technology and climate change strategy development and implementation through:* – *Chairing and expanding the Annex II countries' Climate Technology Initiative which promotes the objectives of the UN Framework Convention on Climate Change (UNFCCC) by fostering international cooperation for accelerated development and diffusion of climate-friendly technologies and practices for all activities and greenhouse gases.(EE)* – *Leading and facilitating the development of US positions on technology issues in the climate negotiations including participation in the UNFCCC technology consultation process. (ER5)*

Means and Strategies for FY2001:

During FY2001, the Office of Policy will continue to concentrate on introducing effective competition in the electric utility sector, strengthening the Nation's energy security, and developing Federal policies that minimize the costs of achieving National environmental goals and international commitments to curb greenhouse gas emissions, while avoiding adverse effects on the reliability of energy supplies.

Collaboration Activities:

PO coordinates with a broad range of external agencies, congressional offices, business and non-governmental organizations via interagency and public fora.

External Factors Affecting Performance:

Industry-specific business conditions, Administration policies, congressional guidance and NGO issues and concerns affect the development and deployment of DOE's positions on varying energy policy issues.

Validation and Verification:

Data Sources:	Customer and internal staff feedback
Baselines:	Anticipated policy outcomes against which feedback is to be measured.
Frequency:	TBD based on level of effort and progress made.
Data Storage:	PO issues managers and senior management will develop and maintain the feedback data on our progress.
Verification:	Anticipate customer surveys and internal assessment of progress.

Planned Program Evaluation:

PO will use a process of internal and external reviews and assessments to evaluate progress on these dynamic and evolving energy policies. PO will document the number of presentations to public groups on energy policy issues and measure the number of official correspondence it has responded to on key energy policy issues. PO will document the influence of our analyses within the interagency process.

Annual Performance Goals for the Office International Affairs:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Continue DOE leadership in international energy initiatives that are instrumental in developing, through government-to-government efforts, an effective legal and regulatory framework for private sector energy investment and policies to encourage development of a broad portfolio of fuel supplies. (ER 1-3)* (MET GOAL)	• *Continue DOE leadership in international energy initiatives that are instrumental in developing, through government-to-government efforts, an effective legal and regulatory framework for private sector energy investment and policies to encourage development of a broad portfolio of fuel supplies.* *(ER 1-3)*	• *Continue DOE leadership in international energy initiatives that are instrumental in developing, through government-to-government efforts, an effective legal and regulatory framework for private sector energy investment and policies to encourage development of a broad portfolio of fuel supplies. Examples include continuing support for the Hemispheric Energy Initiative, Russia outreach activities, Caspian energy activities, Baltic and Black sea oil spill activities, IEA Cross Border Natural Gas Initiative and developing the Fund for Energy Sector Initiatives. (ER1)*
• *Increase U.S. energy-related business internationally by removing policy, legal and fiscal barriers for U.S. companies:* – *Implement with other APEC members and the private sector initiatives to promote accelerated investment in natural gas infrastructure and trading networks in the APEC region, including natural gas and independent power production;* – *Coordinate, in close cooperation with the program offices, and with DOC, OSTP, OVP, EPA and others, energy activities in support of the U.S.-China Forum on Environment and Development, co-chaired by Vice President Gore and Premier Zhu Rongji, and the goals of the joint statement, the "Energy and Environment Cooperation Initiative";*	• *Increase U.S. energy-related business internationally by removing policy, legal and fiscal barriers for U.S. companies by:* – *Continuing to implement with other APEC members and the private sector initiatives to promote accelerated investment in natural gas infrastructure and trading networks in the APEC region.* – *Implementing the "U.S.-China Energy and Environment Cooperation Initiative" including coordination of interagency effort involving DOE programs, EPA, Commerce and OSTP to promote rural electrification, urban air quality, clean energy sources, and energy efficiency.*	• *Increase U.S. energy-related business internationally by removing policy, legal and fiscal barriers for U.S. companies by:* – *Continuing to implement with other APEC members and the private sector initiatives to promote accelerated investment in energy infrastructure and trading networks in the APEC region, including natural gas and independent power production. Conducted follow-on activities to the APEC Ministerial;* – *Coordinating, in close cooperation with the program offices, and with DOC, OSTP, OVP, EPA and others, energy activities in support of the U.S.-China Forum on Environment and Development, and the goals of the joint statement, the "Energy and Environment Cooperation Initiative";*

FY 1999 Results	**FY 2000 Target** (Revised Final)	**FY 2001 Proposed Target**
– *Lead a regulatory reform initiative and undertake the African Energy Initiative to promote science and technology cooperation, and economic - growth through private investment in environmentally sound energy development and regional integration in Sub-Saharan Africa, including Ghana, Nigeria and South Africa;* – *Lead regulatory reform initiative under the Binational Commission to promote adoption by the Russian Government of transparent, fair and consistent regulations in the oil and gas, power sectors in order to attract investment. (ER 4-2)* (MET GOAL) ● *Support non-proliferation objectives through concluding and the implementation of scientific and technology agreements:* – *Geologic research connected to radioactive waste disposal with the Russian Ministry of Atomic Energy;* – *Renewal of the existing Peaceful Uses of Atomic Energy Agreement and beginning negotiations for a new and expanded agreement with Russia;* – *Identification of potential Cooperative projects for Consideration under the U.S.-China Peaceful uses of Nuclear Technologies (PUNT) Agreement. (NS 5-1)* (NEARLY MET GOAL)	– *Continuing to lead a regulatory reform initiative to promote science and technology cooperation, and economic growth through private investment in environmentally sound energy development and regional integration in Sub-Saharan Africa, including Ghana, Nigeria and South Africa;* – *Lead regulatory reform initiative under the Binational Commission to promote adoption by the Russian Government of transparent, fair and consistent regulations in the oil and gas, power sectors in order to attract investment. (ER4-2)*	– *Continuing to lead a regulatory reform initiative to promote science and technology cooperation, and economic growth through private investment in environmentally sound energy development and regional integration in Sub-Saharan Africa, including Ghana, Nigeria, South Africa, Senegal, Uganda and Mozambique and follow-on activities to develop our Africa Partnership. Lead Departmental efforts to implement the President's Council on Science and Technology (PCAST) recommendations;* – *Continuing to lead a regulatory reform initiative under the Binational Commission to promote adoption by the Russian Government of transparent, fair and consistent regulations in the oil and gas, power sectors in order to attract investment. Continue to lead the Western Hemispheric process of developing a vision of and plans for the region's energy infrastructure in the 21st century, emphasizing a government-business dialogue and partnership. (Hemispheric Energy Initiative). (ER 5)*
● *Continuing coordination of the Russian-American Fuel Cell Consortium (RAFCO) which has as one of its primary goals, the opening up of the Russian market to U.S. manufactured fuel cells. (ER 2-4)* (MET GOAL)	● *Continuing coordination of the Russian-American Fuel Cell Consortium (RAFCO) which has as one of its primary goals, the opening up of the Russian market to U.S. manufactured fuel cells. (ER 2-4)*	● *Continuing coordination of the Russian-American Fuel Cell Consortium (RAFCO) which has as one of its primary goals, the opening up of the Russian market to U.S. manufactured fuel cells. (ER2)*

Means and Strategies for FY2001:

During FY2001, the Office of International Affairs will continue to expand science and technology cooperation, and coordinate with other agencies and private sector stakeholders to advance U.S. energy-related business opportunities internationally by encouraging foreign governments to remove policy, legal and fiscal barriers.

Collaboration Activities:

IA collaborates on its activities with external agencies, foreign government agencies, international organizations, congressional staff, business and non-governmental organizations via interagency and public fora.

External Factors Affecting Performance:

International political developments and issues, international energy market conditions, industry-specific business conditions, Administration policies, congressional guidance and NGO issues and concerns affect the development and deployment of DOE's positions on varying energy policy issues.

Validation and Verification:

Data Sources:	Customer and internal staff feedback; program and project reviews.
Baselines:	Anticipated policy, program and project outcomes against which feedback to be measured.
Frequency:	TBD based on level of effort and progress made.
Data Storage:	IA issues managers and senior management will develop and maintain the feedback data on our progress.
Verification:	Anticipate customer feedback surveys and internal reviews of progress.

Planned Program Evaluation:

IA will use a process of internal and external reviews and assessments to evaluate progress on these dynamic and evolving international energy policies, projects and programs.

DOE Decision Units: Office of the Inspector General

President's Budget Program and Financing (P&F) Accounts and Program Activities	**Decision Sub-Units**	**DOE Office**	**FY 2000** Comparable Approp. ($M)	**FY 2001** Request ($M)
270 Energy Supply				
Office of the Inspector General	-	IG	30	33

Description of Program:

Major statutory responsibilities of the Office of Inspector General (OIG) under the Inspector General Act of 1978, as amended, are to detect and prevent fraud, waste, abuse, and violations of law and to promote economy, efficiency, and effectiveness in the operations of the Department of Energy (DOE). In addition to the broad provisions of the Inspector General Act, Congress, through OIG oversight and other means, is demanding improvements in the Department's security, intelligence and counterintelligence programs. These concerns add to historic Congressional concerns relating to major DOE activities, such as contract management, environmental clean-up, project management, and technology transfer, all of which are reviewed by the OIG.

Annual Performance Goals:

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Render, by designated due date, an opinion annually on the Department's consolidated financial statements, system of internal controls, and compliance with laws and regulations.(CM6-1)* (MET GOAL) • *Complete at least 60 percent of the Audits planned for the year and replaced those audits not started with more significant audits which identify time-sensitive issues needing review. (CM6-1)* (MET GOAL)	• *Complete the required annual financial statement audits by designated due dates in the law. (CM6-1)* • *Complete at least 60 percent of the audits planned for the year and replace those audits not started with more significant audits which identify time-sensitive issues needing review. (CM6-1)* • *Initiate at least 80 percent of inspections planned for the year and replace those not started with inspections having greater potential impact. (CM6-1)*	• *Complete the required annual financial statement audits by designated due dates in the law. (CM5)* • *Complete at least 60 percent of the audits planned for the year and replace those audits not started with more significant audits which identify time-sensitive issues needing review. (CM5)* • *Initiate at least 80 percent of inspections planned for the year and replace those not started with inspections having greater potential impact. (CM5)*

FY 1999 Results	FY 2000 Target (Revised Final)	FY 2001 Proposed Target
• *Focus investigations on allegations of serious violations of Federal law by:* – *Obtaining judicial and/or administrative action on 30 percent of all cases in open status during the fiscal year;* – *Obtaining acceptance of 75 percent of the cases presented for prosecution. (CM6-1)* (MET GOAL) • *Plan and, on a timely basis, conduct reviews based on assessment of risk and/or benefit to key Department programs. (CM6-1)* (MET GOAL)	• *Obtain judicial and/or administrative action on at least 35 percent of all cases investigated during the fiscal year. (CM6-1)* • *Obtain at least 75 percent acceptance rate on criminal and civil cases formally presented for prosecutorial consideration. (CM6-1)*	• *Obtain judicial and/or administrative action on at least 35 percent of all cases investigated during the fiscal year. (CM5)* • *Obtain at least 75 percent acceptance rate on criminal and civil cases formally presented for prosecutorial consideration. (CM5)* • *Assess adequacy of contractor internal audit staffing. (FMFIA milestone) CM5/FMFIA)*

Means and Strategies:

The OIG plans its audit, investigation and inspection workloads by focusing on the issues that are critical. Examples of the most critical issues are as follows:

- Intelligence/Counterintelligence
- Safeguards and Security
- Contract/Grant Administration
- Program Management and Operations
- Environment, Safety, and Health
- Infrastructure
- Financial Management
- Administrative Safeguards
- Information Technology Management

External Factors Affecting Performance:

A number of key external factors affect the achievement of OIG goals and objectives. These factors have significant impact on assigning workload, formulating budgets, assessing organizational structure, evaluating procedures and establishing priorities.

- Performing annual financial statement audits required by the Chief Financial Officers (CFO) Act of 1990 and the Government Management Reform Act (GMRA) of 1994.
- Reviewing the Department's implementation of the Government Performance and Results Act of 1993.
- Reviewing employee whistle blower reprisal complaints made pursuant to Section 6006 of the Federal Acquisition Streamlining Act of 1994, and the Intelligence Community Whistleblower Act of 1998.
- Auditing the operation of the value-engineering program in the Department required by OMB Circular 131.
- Reporting to the Intelligence Oversight Board required by Executive Order 12863, "President's Foreign Intelligence Advisory Board" at least quarterly and "as necessary or appropriate," and performing reviews to ensure the Department's intelligence activities are conducted in accordance with existing requirements as required by Executive Order 12333, "United States Intelligence Activities."
- Auditing the Department's Working Capital Fund required by appropriations report language.
- Responding to Departmental Priority Requests which can be resource intensive.

- Answering congressional inquiries, which are often unanticipated, require immediate attention, and consume significant resources.

- Conducting joint reviews with other Federal agencies, the number of which are expected to increase in future years.

- Testifying at congressional hearings.

- Assisting the Justice Department in highly resource-intensive Qui Tam cases.

Validation and Verification:

Data Sources:	Semiannual Report to Congress, Inspector General Act of 1978, as amended, CFO Act
Frequency:	Semiannually and Annually
Data Storage:	OIG Tracking System
Verification:	OIG and DOE Annual Performance Reports

Planned Program Evaluation:

- Organizational Self-Assessment Report
- OIG Semiannual Report to Congress
- DOE and OIG Annual Performance Reports

APPENDIX A

Criteria for Annual Performance Plan Performance Measures & Goals

The following criteria guide the development of annual performance measures & targets:

PRESIDENTIAL (1) a significant budgetary obligation, (2) White House interest has been demonstrated, or (3) there is Secretarial intent to raise to it to the Presidential level.

SPECIFIC Plainly state precisely what will be done in this fiscal year.

QUANTIFIED Clearly state the measurement and target level of performance. Naked percentages are too vague without specifying the base--instead, state the from and to levels with an optional percentage.

MEANINGFUL Each commitment must provide a context, and stand alone without knowledge of last year's Agreement or Plan or our performance results to link the measures to the commitment statement. Why it will be done, i.e., the purpose or planned outcome. The "so as to ..." should be clear for each measure.

STRETCHING Should have 80% confidence in meeting target during the fiscal year. Higher confidence is under committing--lower percentages are over committing.

CONCISE Statements of commitments and measures should be short, direct, and to the point. A commitment with measures should be between 5 and 25 lines (i.e., 30 to 125 words). Explanations should not be included. The object is to produce an Agreement that is short enough that it would actually be read.

WRITTEN FOR TAXPAYERS Written in common language and requiring only a newspaper article level of knowledge of DOE and world events.

COVERING The overall Agreement must reasonably represent the whole of the resources we are entrusted to apply to the Department's mission in this fiscal year.

AUDITABLE Each success measure should be based on factual information, so that the IG and/or GAO will be satisfied if they were to do an audit.

DOE Office Designations:

CI	**Congressional & Intergovernmental Affairs**
CN	**Counterintelligence**
CR	**Chief Financial Officer**
DP	**Defense Programs**
ED	**Economic Impact & Diversity**
EE	**Energy Efficiency & Renewable Energy**
EH	**Environment, Safety & Health**
EIA	**Energy Information Administration**
EM	**Environmental Management**
FE	**Fossil Energy**
FERC	**Federal Energy Regulatory Commission**
GC	**General Counsel**
HG	**Hearings and Appeals**
IA	**International Affairs**
IG	**Inspector General**
IN	**Intelligence**
MA	**Management and Administration**
MD	**Fissile Materials Disposition**
NE	**Nuclear Energy, Science & Technology**
NN	**Nonproliferation & National Security**
NR	**Naval Reactors**
OA	**Independent Oversight and Performance Assurance**
PA	**Public Affairs**
PC	**Privatization and Contract Reform**
PO	**Policy and International Affairs**
PMAs	**Power Marketing Administrations**
RW	**Civilian Radioactive Waste Management**
S1	**Secretary's Office**
SC	**Science (formerly Energy Research)**
SO	**Security and Emergency Operations**
WT	**Worker & Community Transition**